Wm Sloane

THE Compleat Surgeon: OR, THE Whole Art of *SURGERY* explain'd in a moſt familiar Method.

Containing the

Principles of that ART;

AND,

An Exact Account of *Tumours*, *Ulcers*, and *Wounds*, ſimple and complicated, with thoſe by *Gun-ſhot*: As alſo of *Venereal Diſeaſes*, the *Scurvy*, *Fractures*, and *Luxations*: With all ſorts of Chirurgical Operations; the *Bandages* and *Dreſſings*, which are illuſtrated in Forty Copper Plates; the Method of diſſecting the Brain, by M. *Duncan*; ſeveral Reflections and New Machines by M. *Arnaud*.

Likewiſe, a *Chirurgical Diſpenſatory*; ſhewing the Manner of preparing all ſuch Medicines as are moſt neceſſary for a Surgeon; and particularly the *Mercurial Panacea*.

Written in *FRENCH*, by M. LE CLERC, Phyſician in Ordinary to the late *French* King.

The SIXTH EDITION.

To which are added, the Method of Midwifery; *of preparing the* Unguentum Matris, *and the* Unguentum Styracis; *a ſhort Introduction to* BOTANY; *and ſome Examples of Reports in* Surgery.

LONDON,
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THE PREFACE.

SO great a Number of Treatiſes of Surgery, as well Antient as Modern, have been already publiſh'd, that a plenary Satisfaction ſeems to have been long ſince given on this Subject, even to the Judgment of the moſt curious Inquirers. But if it be conſidered, that a young Surgeon ought always to have before him the Principles and the Rules of this Noble Art explain'd after a familiar and intelligible manner; it will be ſoon acknowledg'd, that there is good Reaſon to ſet about the Work anew. For beſides that the Writings of the Antients, being ſo voluminous, are not portable; they are alſo very intricate and confus'd. Nay, the whole Art has been ſo far improved and brought to Perfection, by able Maſters in the preſent Age, that thoſe Writings are now almoſt become uſeleſs.

Some Modern Authors have ſet forth certain ſmall Tracts, which only explain a few Chirurgical Operations, and on that account deſerve only the Name of Fragments.

Indeed there was one printed a little while ago, which ſeems to be ſufficiently Compleat; but it is in ſo large a Volume, and contains ſo many Diſcourſes

altogether foreign from the Principal Subject, that it has almoſt the ſame Inconveniences with the Writings of the Ancients. Therefore the Reader is here preſented with a ſmall Treatiſe of Surgery, yet very plain and perſpicuous, in a portable Volume; being free from a multiplicity of impertinent Words, and containing every thing of moment that has been produc'd by the moſt approved Authors, both Ancient and Modern.

An Introduction is made into the Matter by ſhort Colloquies or Dialogues, to the end that the young Student may be at firſt led, as it were by the Hand. But as ſoon as he has probably made a conſiderable Progreſs in theſe Studies, this innocent and puerile manner of ſpeaking is abandoned, to conduct him in good earneſt to the moſt ſublime Hights of ſo admirable an Art. To which purpoſe, after he has penetrated into its firſt Rudiments and Grounds, he is inſtructed in Anatomy; and then furniſhed with a general Idea of Wounds and Tumours, which are afterward treated of in particular. He is afterwards taught a good Method of curing Wounds made by Gun-ſhot; he is fully inſtructed about the Scurvy, and all ſorts of Venereal Diſeaſes. From thence he is introduced into the Practice of all manner of Chirurgical Operations in Fractures, and Luxations, together with the uſe of their reſpective Dreſſings and Bandages.

This Volume is increaſed by the Addition of the Excellent Method of diſſecting the Brain by M. *Duncan*; with many judicious Remarks, and new Chirurgical Machines of the Invention of the ingenious and well experienced M. *Arnaud*; and with a Compleat Chirurgical Diſpenſatory, ſhewing the Method of preparing ſuch Medicinal Compoſitions as are chiefly us'd in the Art of Surgery.

To

To make the Work ſtill more compleat, in this Edition there is added one whole Chapter concerning the Delivery of Women, and a good Part of another, ſhewing the method of preparing *Unguentum Matris*, and *Unguentum Styracis*.

And ſince the Knowledge of Plants is neceſſary for Surgeons, becauſe the Remedies they uſe are compoſed of them, *A ſhort Introduction to Botany* is added: in which it has been the chief Care to give ſome Marks of every particular Plant, which diſtinguiſh it from thoſe which are like it, and to ſpecifie the moſt known Virtues of every one.

When you meet with the Term *Umbelliferous Plant*, you muſt underſtand a Plant, the little Flowers of which are ſmall Roſe-flowers conſiſting of five Petals, diſpoſed generally in Cluſters at the end of the Branches, in the manner of an Umbrella; and their Seeds are ſo cloſely united by Pairs, that they ſeem to be but one when they are not ripe, and ſeparate aſunder when they are. Hemlock, Daucus, and Fennel are Umbelliferous Plants.

Empalement or *Flower-cup* ſignifies a ſmall Vaſe in which the Flowers are generally placed. There are ſome Plants which have no Empalement, as the Lilly of the Valley, and *Solomon's* Seal; but this is pretty rare.

The *papilionaceous* Flower is ſo called, becauſe it bears ſome reſemblance of a little Butter-fly: the ſeveral Species of Peas, Beans, and of Broom have papilionaceous Flowers.

The *labiated* Flowers are ſmall Tubes, which as they grow wider at the end, form as it were two Lips: the Arch-angel, the Hore-hound, and the Self-heal have labiated Flowers with two Lips.

Lanuginous or downy Seeds are thoſe, at the end of which there is a little Down, which ſerves for

Wings to carry them about in the Air, and to ſow them in diſtant Places: Dandelion and Valerian have lanuginous or downy Seeds.

Flowers are verticillated, when they are diſpoſed all round a Branch, after the manner of a Crown or of a Ring, being placed one above another: Arch-angel and Hore-hound have their Flowers verticillated.

A *radiated* Flower is that, the Circumference of which is compoſed of Petals, and the Centre is as it were void: the ſimple Daizy, and the great Heliotrope or Garden Turn-ſol have radiated Flowers.

The Flowers *in Chives* are compoſed only of little Filaments: Wheat, Rie, and Ladies-mantle have Flowers in Chives.

A Tree grows very high: the Oak and the Elm are Trees.

A Shrub is a little Tree: the Broom and the Jeſſamine are Shrubs. Trees and Shrubs put forth Buds in Autumn for the following Year.

An Under-ſhrub is a vivacious Plant, which lives ſeveral Years; but does not put forth Buds for the enſuing year: Roſe-mary and Thyme are Under-ſhrubs.

An Herb dies every year, and revives from Seed: Wheat, Oats, and Lettuce are Herbs.

When it is ſaid of a Plant, that it is aſtringent, it is applied to recent Inflammations to repreſs them; and Ptiſans and Clyſters are made thereof, to ſtop all Looſeneſſes and other Evacuations of that nature: but the Patient muſt not make uſe of them, till he has been well purged.

When a Plant is pectoral, Potions are made of it to cauſe Spitting.

When it is ſaid, that a Plant is diuretic, it is meant, that it is good for the Jaundice, the green

Sick-

Sickneſs, to provoke the Terms, to bring away Gravel, for the Stone-cholic, &c. All Diuretics make people lean.

The Aperitive Plants are given, like thoſe which are diuretic, and for the Obſtructions of the inteſtinal Parts.

The Sudorific Plants are good to cauſe thoſe Perſons to ſweat, who have intermitting, ſpotted, or peſtilential Fevers. They are excellent againſt the bitings of venomous Creatures, the Gout, flying Pains, Rheumatiſms, Palſies, and in all Diſtempers which are cured by ſweating.

The anti-epileptic Plants are given for the Epilepſy, and all convulſive motions.

The vulnerary Plants are generally deterſive: they are applied to recent Wounds, and to Ulcers. Decoctions are made of them to be injected into fiſtulous Ulcers, and into the Womb to cleanſe the Wounds and Ulcers there.

The anti-ſcorbutic Plants are put into Drinks, for thoſe who are afflicted with the Scurvy, and who are hypochondriac; and Gargariſms are made thereof, to waſh their Mouths.

When a Plant is lenitive or ſoftening, it is put into Ptiſans, to allay the Acrimony of the *Lympha* which cauſes the Cough.

The reſolvent Plants are applied to thoſe Tumours which are to be diſſolved without Suppuration.

A Surgeon cannot excuſe himſelf from making his Report concerning any Malady, when he is called to do it: and therefore general Rules are here laid down to that Purpoſe, and ſome Reports ready drawn are added, which may ſerve as a Pattern for all thoſe which a Surgeon ſhall be obliged to make.

There is another Book, publiſhed by the ſame Perſon, intituled *The exact and complete Oſteology.* There all the Bones of the human Body are examined every one in particular, and all is ſaid which can be known concerning them. There particular Notice is taken of the Apophyſes, Cavities, Holes, Conduits, Condyli, Sinus, Calculs, Foſſes, Sciſſures, Crannies, Lips, Creſts, *&c.* and of all the Things which adhere to theſe Parts, or paſs by them.

The Articulations are likewiſe given there exactly, according to the Antients and the Moderns.

There is alſo a fine general Diſcourſe concerning the Bones, in which is ſhewn how they are nouriſhed; and the different Opinions of the Antients and Moderns upon this famous Queſtion are produced.

There is likewiſe a good deal ſaid about the Marrow of the Bones, and its true uſe. All the Bones are particularly examined, from the Head to the Feet, to ſhew their Articulations.

A Skeleton of a reaſonable Size is ingraved, and marked with Figures, that all the Bones of the human Body may be diſtinguiſhed, according to the Diſcourſe concerning the Skeleton inſerted before it, for the Convenience of young Perſons, who deſire to apply themſelves to this Study, which is the Foundation of Phyſic and of Surgery.

At the End of the *Oſteology* is added a Treatiſe of all the Diſeaſes of the Bones, as Pains, Caries, Exoſtoſes, Softneſs, Cliquetis, Luxations, Fractures, *&c.* which is attributed to the great Anatomiſt of the preſent Age.

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THE

THE Compleat Surgeon:

Or, the Whole ART of

SURGERY

EXPLAIN'D, &c.

BOSTON MEDICAL ASSOCIATION

CHAP. I.

Of the Qualifications of a SURGEON, *and of the Art of* Surgery.

WHO is a Surgeon?

A Person skill'd in curing Diseases incident to Humane Bodies, by a methodical Application of the Hand, and of proper Remedies.

What are the Qualifications of a good Surgeon in general?

They are Three in Number, *viz.* Skill in the Theory, Experience in the Practical Part, and a gentle Application of the Hand.

Why ought a Surgeon to be skilful?

Because without Skilfulness he can have no Certainty in what he doth.

Why must he be experienc'd?

Becauſe Knowledge alone doth not indue him with a dexterity of Hand requiſite in ſuch a Perſon, which cannot be acquir'd but by Experience, and repeated Manual Operations.

Why muſt he be tender-handed?

To the end that by gentle Applications he may aſſwage thoſe Pains which he is oblig'd to cauſe his Patients to endure.

What is Chirurgery or Surgery?

It is an Art, which ſhews how to cure the Diſeaſes of Humane Bodies by a methodical Manual Application. The Term being deriv'd from the *Greek* Word Χειρ, ſignifying a *Hand*, and Ἔργον, a *Work* or *Operation*.

After how many manners are Chirurgical Operations uſually perform'd?

Four ſeveral Ways.

Which be they?

I. *Syntheſis*, whereby the divided Parts are re-united; as in Wounds. II. *Diæreſis*, that divides and ſeparates thoſe Parts, which, by their Union, hinder the Cure of Diſeaſes: ſuch is the Continuity of the Skin or Fleſh in Abſceſſes or Impoſthumes, which muſt be open'd to let out the purulent Matter. III. *Exæreſis*, which draws out of the Body whatſoever is noxious or hurtful as Bullets, Arrows, *&c.* IV. *Protheſis*, which adds ſome Inſtrument to the Body to ſupply the defect of thoſe Parts that are wanting; ſuch are Artificial Legs and Arms, when the Natural ones are loſt. It alſo furniſhes us with certain Inſtruments to help and ſtrengthen weak Parts, ſuch as *Peſſaries*, which retain the *Matrix* in its proper Place when it is fallen, Crutches to aſſiſt feeble Perſons in going, *&c.*

What ought to be chiefly obſerv'd before the undertaking an Operation?

Four things, *viz.* 1. What the Operation to be perform'd is. 2. Why it is perform'd. 3. Whether it be neceſſary or poſſible. And 4. The Manner of performing it.

How may we know all theſe?

The Operation to be perform'd may be known by its Definition; that is to ſay, by explaining what it is in it ſelf. We may diſcover, whether it ought to be done, by examining whether the Diſtemper cannot be cur'd other-

therwiſe. We may alſo judge, whether it be poſſible or neceſſary, by a competent Knowledge of the nature of the Diſeaſe, the Strength of the Patient, and the Part affected. Laſtly, the manner of performing it may be found out, by being well vers'd in the Practice of Surgery.

What are the fundamental Principles of Surgery?

They are Three in Number, *viz.* 1. The Knowledge of Man's Body. 2. That of the Diſeaſes which require a Manual Operation. 3. That of proper Remedies and Helps upon every Occaſion.

How may one attain to the Knowledge of Humane Bodies?

By the Study of Anatomy.

How may one learn to know the Diſtempers relating to Surgery, and the Remedies proper for them?

Two ſeveral Ways, *viz.* 1. By the reading of good Books, and by the Inſtructions receiv'd from able Maſters of that Art. 2. By Practice, and the Obſervation of what is perform'd by others upon the Bodies of their Patients.

What are the Diſeaſes in general that belong to Surgery?

They are Tumors, Impoſtumes, Wounds, Ulcers, Fractures, Diſlocations, and generally all ſorts of Diſtempers whereto Manual Operations may be apply'd.

What are the Inſtruments in general which are commonly uſed in Surgery for the curing of Diſeaſes?

They are five, *viz.* The Hand, Bandages, Medicines, the Knife, and Fire.

What is the general Practice which ought to be obſerv'd in the Application of theſe different Helps?

Hippocrates teacheth us, in ſaying, that when Medicines are not ſufficient, recourſe may be had to the Knife, and after that, to Fire; intimating, that we muſt proceed by degrees.

Are there any Diſtempers that may be cur'd by the Surgeon's Hand alone?

Yes; as when a ſimple and ſmall Diſlocation is only to be reduc'd.

CHAP. II.

Of Chirurgical Inſtruments, portable and not portable.

WHAT do you call portable and not portable Inſtruments? Portable Inſtruments are thoſe which the Surgeon carries in his Lancet-Caſe with his Plaiſter-Box; and Not Portable, are thoſe that he doth not carry about him, but is oblig'd to keep at home; the former being appointed for the ready Help which he daily adminiſters to his Patients, and the other for greater Operations.

What are the Inſtruments which a Surgeon ought to have in his Plaiſter-Box?

Theſe Inſtruments are, a good Pair of *Sciſſors*, a *Razor*, an *Inciſion-Knife* ſtrait and crooked, a *Spatula*, a greater *Lancet* to open Impoſtumes, and leſſer for letting Blood. They likewiſe carry ſeparately in very neat Lancet-Caſes, a hollow *Probe* made of Silver or fine Steel; as alſo many other Probes, ſtrait, crooked, folding, and of different Sizes; a *Pipe* of Silver or fine Steel, to convey the cauterizing *Button* to a remote Part, without running the hazard of burning thoſe that are near it; another *Pipe* or *Tube* ſerving inſtead of a Caſe for *Needles*, having an Eye at one end for ſowing; a *Carlet*, or thick triangular Needle; a *Myrtle-Leaf*; a ſmall *File*; a Steel-Inſtrument to cleanſe the Teeth; a *Fleam*; a Pair of crooked *Forceps* to draw a Tooth; a *Pelican*; a *Crow's Bill*; a Lenticular Inſtrument; a *Hook* to hold up the Skin in cutting, *&c.*

What are the Inſtruments which a Surgeon ought to keep in his Repoſitory to perform the greater Operations?

Some of them are peculiar to certain Operations, and others are common to all. The Inſtruments appropriated to particular Operations, are the *Trepan*, for opening the Bones in the Head, or elſewhere: The *Catheters* are Probes for Men and Women afflicted with the Stone, or difficulty of making Water: *Extractors*, to lay hold on the Stone in *Lithotomy*: Small Scoops, to fetch away the Gravel: Large crooked *Inciſion-Knives*, and a *Saw* for Am-

Amputations of the Arms or Legs: Great *Needles* with three Edges, for making *Setons:* Small *Needles* to couch Cataracts: Other *Needles:* Thin *Plates* and *Buckles* to close a Hair-Lip, *&c.*

May not the Salvatory be reckon'd among the portable Instruments?

Yes; because the Balsams, Ointments, and Plaisters contain'd therein, are Means whereof the Surgeon makes use to restore Health.

CHAP. III.

Of ANATOMY *in general; and in particular of all the Parts whereof the Humane Body is compos'd.*

WHAT is Anatomy?

It is the *Analysis,* or exact Division of all the Parts of a Body, to discover their Nature and the Springs of Motion.

What is requisite to be observ'd by a Surgeon before he goes about to dissect a Body?

Two Things, *viz.* The external Structure of the Body, and the Proportion or Correspondence between the External and Internal Parts.

Why so?

Because without the general Knowledge of the External Parts, a Surgeon would be often mistaken in the Judgment he is to pass concerning a Dislocation or a Wound, inasmuch as it is by the Deformity which he perceives in the Member, that he knows a Dislocation; as it is also by the means of the Correspondence which the outward Parts have with the inward, that he is enabled to draw any certain Consequences relating to a Wound which penetrates into the Body.

What is a Part?

It is that whereof the whole Body is compos'd, and which partakes of a common Life or Sensation with it.

How many sorts of Parts are there in a Humane Body?

We may well reckon up fifteen distinct sorts; which are, a Bone, a Cartilage, a Ligament, a Tendon, a Membrane, a Fibre, a Nerve, a Vein, an Artery, the Flesh, the Fat, the Skin, the Scarf-skin, the Hair, and the Nails.

What is a Bone?

It is the hardest and driest Part of the whole Body, and that which constitutes its principal Support.

What is a Cartilage or Gristle?

It is a yielding and supple Part, which partakes of the nature of a Bone, and is always fastned to the Extremities thereof, to render its Motion more smooth and easie.

What is a Ligament?

It is a membranous Contexture usually sticking to the Bones to contain them; as also sometimes to other Parts, to suspend and retain them in their proper place.

What is a Tendon?

It is the Tail or Extremity of the Muscles, made by the re-union of all the Fibres of their Body, which serves to corroborate it in its Action, and to give Motion to the Part.

What is a Membrane?

It is a nervous Part, the Use whereof is to cover the Cavities of the Body on the Inside, to wrap up the Parts, and to form Cavities, as do the Bladder which receives the Urine, the Gall-Bladder which receives the Gall, *&c.*

What is a Fibre?

They are fleshy Threads of which the Body of a Muscle is compos'd.

What is a Nerve?

It is a long, white, round, and thin Body, consisting of many Fibres, inclos'd within a double Tunick, and design'd to carry the Animal Spirits into all the Parts, to give them Sense and Motion.

What is an Artery?

It is a Canal compos'd of four Coats, that carrieth with a kind of Beating or Pulse, even to the very Extremity of the Parts, the Blood full of Spirits, which proceeds from the Heart, to distribute to them at the same time both Life and Nourishment.

What is a Vein?

It is a Canal made likewise of four Tunicles, which receives the Arterial Blood, to carry it back to the Heart.

What

What is Fleſh?

It is a Part which is form'd of Bloo thickedn'd by the natural Heat, and that conſtitutes the Body of a Muſcle.

What is Fat?

It is a ſoft Body made of the Unctuous and Sulphurous Part of the Blood.

What is the Derma *or Skin?*

It is a Net-like Contexture, compos'd of Fibres, Veins, Arteries, Lymphatick Veſſels, and Nerves, which covers the whole Body, to defend it from the Injuries of the Air, and to ſerve as an univerſal Emunctory: It is very thin in the Face, ſticking cloſe to the Fleſh, and is pierc'd with an infinite Number of Holes, ſome of which are large, as at the Eyes, the Mouth, the Noſtrils, the *Anus*, &c. and the reſt are imperceptible Pores, affording a Paſſage to inſenſible Tranſpiration.

What is the Epiderma, *or Scarf-skin?*

It is a thin, fine, tranſparent Skin, having alſo innumerable inviſible Pores, for the diſcharging of Sweat, and other Humours by inſenſible Tranſpiration: It is extended over the whole inner Skin, to dull its too exquiſite Senſe, by covering the Extremities of the Nerves which are there terminated. It alſo renders the ſame Skin even and ſmooth, and ſo contributes very much to Beauty.

What is the Hair?

The Hair are certain hollow Filaments planted in the Glandules of the Skin, from whence their Nouriſhment is deriv'd: They are the Ornament of ſome Parts; cover thoſe which Modeſty requires to be conceal'd; and defend others from the Injury of the Weather.

What is a Nail?

The Nails are a Continuity of the Skin harden'd at the end of the Fingers, to ſtrengthen and render them fit for Work.

CHAP. IV.

Of the General Diviſion of a Humane Body.

HOW is the Humane Body divided before it is diſſected, in order to Anatomical Demonſtration?

Some Anatomiſts diſtinguiſh it into *Similar* and *Diſſimilar* Parts, appropriating the former Denomination to all the homogeneous Parts of the Body taken ſeparately, as a Bone, a Vein, a Nerve, *&c.* but they attribute the Name of *Diſſimilar* to all thoſe Members that are compos'd of many heterogeneous Parts joined together; ſuch are the Arms, Legs, Eyes, *&c.* wherein are contain'd, all at once, Bones, Veins, Nerves, and other Parts.

Others divide it into *Containing* and *Contained* Parts, the former incloſing the others, as the Skull includes the Brain, and the Breaſt the Lungs: Whereas the Contained Parts are ſhut up within others; as the Entrails within the Belly, the Brain within the Skull, *&c.*

Others again divide the whole Body into *Spermatick* and *Sanguineous* Parts: the former being thoſe which are delineated in the firſt Formation; and the latter, thoſe acceſſory ones which are made of the Nutriment ſupplied by the Blood.

Are there not alſo other Methods of dividing the Humane Body?

Yes: Many Perſons conſider it as a Contexture of Bones, Fleſh, Veſſels, and Entrails, which they explain in four ſeveral Treatiſes: whereof the firſt is called *Oſteology*, for the Bones; the ſecond *Myology*, for the Muſcles; the third, *Angiology*, for the Veins, Arteries, and Nerves, which are the Veſſels; and the fourth, *Splanchnology*, for the Entrails.

But laſtly, the moſt clear and perſpicuous of all the Diviſions of the Body of Man, is that which compares it to a Tree, whereof the Trunk is the Body, and the Branches are the Arms and Legs. The Body is divided into three *Venters*, or great Cavities, *viz.* the Upper, the Middle, and the Lower, which are the Head, the Breaſt, and the lower Belly. The Arms are diſtributed into the

Arms

Arms properly ſo called, the Cubit and Hands; and the Legs in like manner into Thighs, Legs and Feet: The Hands being alſo ſubdivided into the *Carpus* or Wriſt, *Metacarpus* or Back of the Hand, and the Fingers; as the Feet into the *Tarſus*, *Metatarſus*, and Toes. This Diviſion is at preſent follow'd in the Anatomical Schools.

CHAP. V.

Of the SKELETON.

WHY is Anatomy uſually begun with the Demonſtration of the Skeleton, or of the Contexture of the Bones?

Becauſe the Bones ſerve for the Foundation, Connexion, and Support of all the other Parts of the Body.

What is a Skeleton?

It is a gathering together, or Conjunction of all the Bones of the Body, almoſt in their natural Situation.

From whence are the principal Differences of the Bones derived?

They are taken from their Subſtance, Figure, Articulation, and Uſe.

How is all this to be underſtood?

Firſt then, with reſpect to their Subſtance, there are ſome Bones harder than others; as, thoſe of the Legs compar'd with thoſe of the Spine of the Back. Again, in regard of their Figure, ſome are long, as thoſe of the Arm; and others ſhort, as thoſe of the *Metacarpus*. Some are alſo broad, as thoſe of the Skull, and of the *Scapulæ* or Shoulder-Blades; and others narrow, as the Ribs. But with reſpect to their Articulation, ſome are joined by thick Heads, which are receiv'd into large Cavities, as the Thigh-Bones with thoſe of the Hips; and others are united by means of a ſimple Line, as the Chin-Bones. Laſtly, with relation to their Uſe, ſome ſerve to ſupport and carry the whole Body, as the Leg-Bones; and others are appointed to grind the Meat, as the Teeth; or elſe to form ſome Cavity, as the Skull-Bone, and thoſe of the Ribs.

What

What are the Parts to be diſtinguiſh'd in the Bones?

They are the Body, the Ends, the Heads, the Neck, the *Apophyſes* or Proceſſes, the *Epiphyſes*, the *Condyli* or Productions, the Cavities, the *Supercilia* or Lips, and the Ridges.

The Body is the greateſt Part, and the middle of the Bone; the Ends are the two Extremities; the Heads are the great Protuberances at the Extremities; the Neck is that Part which lies immediately under the Head; the *Apophyſes* or Proceſſes are certain Bunches or Knobs at the ends of the Bones, which conſtitute a Part of them; the *Epiphyſes* are Bones added to the Extremities of other Bones; the *Condyli* or Productions, are the ſmall Elevations or Extuberances of the Bones; the Cavities are certain Holes or hollow Places; the *Supercilia* or Lips are the Extremities of the Sides of a Cavity, which is at the End of a Bone; the Ridges are the prominent and ſaliant Parts in the length of the Body of the Bone.

How are the Bones joined together?

Two ſeveral Ways, *viz.* by *Articulation*, and by *Symphyſis*.

How many ſorts of Articulations are there in the Bones?

There are generally two Kinds, *viz. Diarthroſis* and *Synarthroſis*.

What is Diarthroſis?

Diarthroſis is a kind of Articulation which ſerves for ſenſible Motions.

How many kinds of Diarthroſes, *or great Motions are there?*

There are three, *viz. Enarthroſis*, *Arthrodia*, and *Ginglymus*.

Enarthroſis is a kind of Articulation which unites two Bones, by a great Head on one ſide, and a large Cavity on the other; as is that of the Head of the Thigh-Bone in the Cavity of the *Iſchion* or Huckle-bone.

Arthrodia is a ſort of Articulation, by the means whereof two Bones are joined together by a flat Head receiv'd into a Cavity of a ſmall Depth: Such is that of the Head of the Shoulder-Bone with the Cavity of the *Scapula* or Shoulder-blade.

Ginglymus is a kind of Articulation which unites two Bones, each whereof hath at their Ends a Head and a Cavity, whereby they both receive and are received at the

the ſame time: Such is the Articulation in the Bones of the Cubit and *Radius*, and of the *Vertebræ*.

What is a Synarthroſis?

Synarthroſis being oppoſite to *Diarthroſis*, is a cloſe or compacted Articulation, deſtitute of any ſenſible Motion.

How many ſorts of Synarthroſes *or cloſe Articulations are there?*

There are Three, *viz. Sutura, Harmonia*, and *Gomphoſis*.

A *Suture* is that which joyns together two flat Bones by a kind of Seam or Stitch, or by a Connexion of their Extremities diſpoſed in form of a Saw, the Teeth whereof are reciprocally let one into another: Such are the Sutures of the Skull-Bones.

Harmonia is the uniting of two Bones by a ſimple Line: as the Bone of the Cheek with that of the Jaw.

Gomphoſis is a kind of cloſe Articulation, which unites two Bones after the manner of Nails or wooden Pins fix'd in the Holes made to receive them: Such is that of the Teeth in their Sockets.

What is Symphyſis?

Symphyſis is the uniting of two Bones by the Interpoſition of a *Medium*, which ties them very ſtrait together; being alſo threefold: Such is the Connexion of the *Rotula* to the Knee, and of the *Scapula* to the Arm-Bone.

Are not theſe three Kinds of Articulations or Symphyſes *diſtinguiſh'd one from another?*

Yes: For tho' they are all made by the means of a third Body intervening, which joins them together; nevertheleſs every one of theſe various Bodies gives a different Denomination to its reſpective Articulation: Thus the Articulation which is cauſed by a glutinous and cartilaginous Subſtance, is properly called *Synchondroſis*; as that of the Noſe, Chin, *Os Pubis*, &c. but an Articulation which is made by a Ligament, is term'd *Synneuroſis*, as that of the Knee-Pan. Laſtly, that which is wrought by the means of Fleſh, bears the Name of *Syſſarcoſis*; as the Jaw-Bones, the *Os Hyoides*, and the *Scapula* or Shoulder-blade.

Read the Exact and Compleat Oſteology concerning the *Articulations*; where they are laid down according to the Antients and Moderns.

Have

Have the Bones any Senſe of Feeling or Motion?

They have neither of themſelves: For their Senſe of Pain proceeds from nothing elſe but their *Perioſteum*, or the Membrane with which they are cover'd; and their Motion is perform'd only by the Muſcles that draw them.

Doth the Marrow afford any Nutriment to the Bones?

No; all the Bones are nouriſh'd by the Blood, as the other Parts; but the Marrow is to the Bones what the Fat is to the Fleſh; that is to ſay, it is a kind of Oil or unctuous Subſtance, which moiſtens, and renders them leſs brittle.

Are all the Bones of the ſame Colour?

No; they follow the Temperament and Conſtitution of the Perſons.

How many in number are the Bones of the Humane Skeleton?

There are two hundred and fifty uſually reckon'd, *viz.* ſixty one in the Head, ſixty ſeven in the Trunk or Cheſt, ſixty two in the Arms and Hands, and ſixty in the Legs and Feet: But the true Number cannot be exactly determin'd, by reaſon that ſome Perſons have more, and others fewer; for ſome have more *Oſſa Seſamoidea*, Teeth, and Breaſt-bones than others; again, ſome have many Indentings in the *Lambdoidal* Suture, and others have none at all.

Can you rehearſe the Number of Bones in the Head?

There are fifteen in the Skull, and forty ſix in the Face.

The fifteen of the Skull are, the *Coronal* for the Fore-part of the Head; the *Occipital* for the Hinder-part; the two *Parietals* for the Upper-part and each Side; the two *Temporals* for the Temples; the *Os Sphænoides* or *Cuneiforme*, which cloſeth the *Baſis* or Bottom of the Skull; the *Os Ethmoides* or *Cribriforme*, ſituated at the Root of the Noſe; and the four little Bones of the Ear on each Side, *viz.* the *Incus*, or Anvil; the *Stapes*, or Stirrup; the *Malleolus*, or Hammer; and the *Orbiculare*, or Orbicular Bone.

Of the forty ſix of the Face, twenty ſeven are counted in the Upper-Jaw, *viz.* the two *Zigomatick*, or the two Bones of the Cheek-Knots; the two *Lachrymal* in the great Corners of the Eyes toward the Noſe; the two

Max-

Maxillar, that receive the Upper Teeth, and which form part of the Palate of the Mouth, and of the Orbits of the Eyes; the two Bones of the Noſe; the two Palate-Bones which are at its End, and behind the Noſtrils; the laſt being ſingle, is the *Vomer*, which makes the Diviſion of the lower part of the Noſtrils; and there are generally ſixteen Upper Teeth. The Lower Jaw contains nineteen Bones, *viz.* ſixteen Teeth; two Bones that receive them; and the *Os Hyoides*, which is ſingle, and fix'd at the Root of the Tongue.

How are the Teeth uſually divided, with reſpect to their Qualities?

Into *Inciſive* or Cutters, *Canine* or Dog-Teeth, and *Molar* or Grinders. There are eight Inciſive, and four Canine, which have only one ſingle Root; as alſo twenty Molar, every one whereof hath one, two, or three Roots.

Can you recite the Number of the Bones of the Trunk or Cheſt?

There are generally thirty and three in the *Spine* or Chine-Bone of the Back, *viz.* ſeven *Vertebræ* in the Neck, twelve in the Back, five in the Loins, five, ſix, and ſometimes ſeven in the *Os Sacrum*, three or four in the *Coccyx*, and two Cartilages at its End.

There are twenty-nine in the Breaſt, *viz.* twenty four Ribs, two Clavicles or Channel-bones, and commonly three Bones in the *Sternum*. The Hip-bones are likewiſe divided into three, *viz. Ilion*, *Iſchion*, and *Os Pubis*.

Do you know the Number of the Bones of the Arms?

There are thirty and one Bones in each Arm: that is to ſay, the *Scapula* or Shoulder-blade; the *Humerus* or Shoulder-bone; the two Bones of the Fore-Arm call'd *Ulna* and *Radius*; eight little Bones in the *Carpus* or Wriſt; five in the *Metacarpus* or the Hand; and fourteen in the Fingers, three to every one except the Thumb, which hath only two.

Can you give us a Liſt of the Bones of the Leg in their Order?

There are thirty Bones in each Leg, *viz.* the *Femur* or great Thigh-bone; the Knee-Pan or *Rotula* on the Top of the Knee; the *Tibia, greater Foſſile* or Shin-bone; and the *Perone* or *Fibula*, or *leſſer Foſſile*, which are the two aſſociated Bones of the Leg; ſeven little Bones in the *Tarſus*,

ſus; five in the *Metatarſus*; and fourteen in the Toes, that is to ſay, three to every one, except the Great Toe, which hath only two.

Thus the Number of Bones in the Humane *Skeleton* amounts to two hundred and fifty, without reckoning the *Seſamoidea*, the Interſtitial Bones between the Sutures of the Skull, and ſome others, which are not always to be found.

In order to have a perfect Knowledge of the Bones, you muſt read the Exact and Compleat Oſteology, in the Second Volume of my Surgery, which contains every thing deſireable in relation to that Art.

CHAP. VI.

Of MYOLOGY, *or the Anatomy of the Muſcles of a Humane Body.*

WHAT is a Muſcle?

It is the principal Organ or Inſtrument of Motion; or it is a Portion of Fleſh, wherein there are Veins, Arteries, Nerves, Fibres, and Tendons, and which is cover'd with a Membrane.

How many Parts are there in a Muſcle?

Three, *viz.* The Head, the Belly, and the Tail: The Head is that Part through which the Nerve enters: The Belly is the Body or Middle of the Muſcle; and the Tail is the Extremity, where all the Fibres of the Muſcle are terminated to make the Tendon or String, which is faſten'd to the Part whereto it gives Motion.

Have all the Muſcles their Fibres ſtrait from the Head to the Tail?

No; ſome have them ſtrait, others tranſverſe, and others oblique or circular, according to the ſeveral Motions to which they are appropriated.

How many ſorts of Muſcles are there with reſpect to their Action?

There

There are two different Kinds, *viz.* the *Antagoniſts* and the *Congenerate*: The former are thoſe that produce oppoſite Motions; as a *Flexor* and an *Extenſor*, a *Depreſſor* and a *Levator*. The *Congenerate* are thoſe that contribute to one and the ſame Action; as when there are two Flexors, or two Extenſors, and then one ſupplies the Defect of the other; whereas when one of the Antagoniſt Muſcles is cut, the other becomes uſeleſs, and void of Action.

How is the Action of a Muſcle perform'd?

It is done by Contraction and Extenſion; the former cauſeth the Antagoniſt to ſwell, and the other compels it to ſtretch forth in length.

What is Aponeuroſis?

This Word *Aponeuroſis* ſignifies the Dilatation of a Tendon: And is derived from *apo*, *from*, and *Neuron*, a Nerve or Sinew.

It is properly the continuity of the Fibres of a Tendon, which makes a flat Connexion that ſerves to ſtrengthen the Muſcle in its Motion.

CHAP. VII.

Of the MYOLOGY, *or Anatomy of the Muſcles of the Head.*

HOW many Muſcles are there appointed to move the Head, and which be they?

The Head is mov'd by means of fourteen Muſcles, ſeven on each Side; of theſe, two ſerve to depreſs it, eight to lift it up, and four to turn it round about.

The two Depreſſors are call'd *Sternaclinomaſtoidei*; they take their Riſe in the *Sternum*, at the Clavicles, and proceed obliquely to join the *Apophyſis Maſtoides*.

Of the four Elevators on each Side, the firſt is the *Splenius*, which begins at the five *Vertebræ* of the Back, and the three lower ones of the Neck, and aſcending obliquely, cleaves to the hinder Part of the Head. The ſecond, named *Complexus* or *Trigeminus*, having its beginning

ginning as the *Splenius*, ſticks in like manner to the hinder Part of the Head; and they form together a Figure reſembling that of St. *Andrew*'s Croſs. The third is the *Rectus Major*, which proceeding from the ſecond *Vertebra* of the Neck, ſhoots forward to join the hinder Part of the Head. The fourth is the *Rectus Minor*, which begins at the firſt *Vertebra* of the Neck, and ends likewiſe in the hinder Part of the Head.

The two Muſcles on each Side, which move the Head circularly, are the *Obliquus Major* and *Minor*; the *greater Oblique* taking its riſe from the ſecond *Vertebra* of the Neck, goes to meet the firſt; but the *leſſer Oblique* hath its Origin in the hinder Part of the Head, and proceeds to join the other obliquely in the firſt *Vertebra*.

How many Muſcles are there in the Lower Jaw, and which be they?

The Lower Jaw hath twelve Muſcles which cauſe it to move; that is to ſay, ſix on each ſide, whereof four ſerve to cloſe, and two to open it.

The firſt of the Openers is the *Latus*, which beginning at the Top of the *Sternum*, Clavicle, and *Acromion*, cleaves on the Out-ſide to the Bottom of the lower Jaw-bone. The ſecond of the Openers is the *Digaſtricus*, which takes its riſe in a Fiſſure lying between the Occipital Bone and the *Apophyſis Maſtoides*, from whence it paſſeth to the Bottom of the Chin on the Inſide.

The firſt of the Shutters is the *Crotaphites* or Temporal Muſcle, which hath its Origin at the Bottom, and on the Side of the *Os Coronale*, of the *Os Parietale*, and of the *Os Petroſum*, from whence it is extended, till it cleaves to the *Proceſſus Coronoides* of the Lower Jaw, after having paſſed above the *Proceſs* of the *Zigon*. Its Fibres are ſpread from the Circumference to the Centre, and it is covered again with the *Pericranium*, which renders its Wounds very dangerous; ſo that the leaſt Inciſions poſſible ought to be made therein.

The ſecond is the *Pterygoidæus* or *Aliformis Externus*, whoſe riſe is in the *Apophyſis Pterygoides*, from whence it ſets forward till it ſtick between the *Condylus* and the Coronal of the Lower Jaw.

The

The third is the *Maſſeter*, which hath a twofold Riſe or Beginning, and as many Inſertions: the firſt Riſe thereof is at the Cheek-Knot or Ball of the Cheek; and the ſecond at the lower part of the *Zygoma*. The firſt Inſertion is at the outer Corner of the Jaw, and the ſecond in the middle Part, by that means forming the Figure of the Letter X.

The fourth is the *Pterygoidæus Aliformis Internus*, which hath its Beginning in the *Proceſſus Pterygoides*, and is terminated in the inner Corner of the Jaw; ſo that Maſtication or Chewing is perform'd by the means of theſe Four Muſcles.

How many Muſcles are there in the Face; and which be they?

There are two for the Forehead, call'd *Frontal*, whoſe Origin is in the upper Part of the Head, from whence they deſcend by ſtrait Fibres, until they terminate at the Skin of the Forehead near the Eye-brows, where they are re-united: Their Action or Office is to draw the Skin of the Forehead upward, whereto they ſtick very cloſe.

There are alſo two others call'd *Occipital*, which have their Beginning in the ſame Place with the preceding; but they deſcend backward, and cleave to the Skin of the hinder Part of the Head, which they draw upward.

There are two Muſcles to each Eye-lid, one whereof is term'd the *Attollens* or *Elevator*, and the other the *Depreſſor*. The *Elevator* takes its riſe in the bottom of the Orbit of the Eye, and is faſten'd by a large *Aponeuroſis* to the Edge of the upper Eye-lid. The Shutter or Depreſſor, call'd alſo the *Orbicular*, hath its Origin in the great *Canthus* or corner of the Eye, paſſeth over the Eye-lid upward, and is joined to the leſſer Corner of the ſame Eye, being extended along its whole Compaſs.

The Eyes have each ſix Muſcles, *viz.* four *Recti*, and two *Obliqui*: the *Recti*, or ſtrait Muſcles, are the *Elevator*, the *Depreſſor*, the *Adductor*, and the *Abductor*. The firſt of theſe, call'd *Elevator* or *Superbus*, draws the Eye upward, as it is pull'd downward by the *Depreſſor* or *Humilis*; the *Adductor* or *Bibitorius*, draws it toward the Noſe, and the *Abductor* or *Indignatorius*, toward the Shoulder. All theſe ſmall Muſcles have their Originals and Inſertions in the bottom of the Orbit, through which the Optick Nerve paſſeth, and

are terminated in the Corneous Tunicle by a very large Tendon.

The firſt of the Oblique ones is term'd the *Obliquus Minor*, and the other *Obliquus Major*, becauſe they draw the Eye obliquely. Theſe Muſcles cauſe Children to ſquint when they do not act together. The *Obliquus Minor* is faſtned to the outward Part of the Orbit near the great Corner, and draws the Eye obliquely toward the Noſe: but the *Obliquus Major* is fixed in the inner Part of the Orbit, and aſcends along the Bone to the upper Part of the great Corner, where its Tendon paſſeth through a ſmall Cartilage nam'd *Trochlea*, and is inſerted in the little Corner with the *Obliquus Minor*, to draw the Eye obliquely toward the leſſer Corner.

The Ear, alcho' not uſually endu'd with any ſenſible Motion, nevertheleſs hath four Muſcles, *viz.* one above, and three behind: the firſt being ſituated over the Temporal, and faſtned to the Ear to draw it upward; the three others have their beginning in the *Maxillary* Proceſs, and terminate in the Root of the Ear to draw it backward.

There are alſo three Muſcles in the inner Part of the Ear, whereof the External belonging to the *Malleus* or Hammer lies upon the exterior Part of the bony Paſſage, which reacheth from the Ear to the Palate of the Mouth, being fix'd in a very oblique Sinuoſity, which is made immediately above the Bone that bears the Groove, into which is let the Skin of the *Tympanum* or Drum. The internal Muſcle lies hid in a bony Semi-Canal, in the *Os Petroſum*; one Part of which Semi-Canal is without the Drum, and clos'd on the top with a Paſſage that leads from the Ear into the Palate: but the other Part within the the Drum advanceth to the *Feneſtra Ovalis*, and is inſerted in the hinder Part of the Handle of the *Malleus*. The Muſcle of the *Stapes* or Stirrup is alſo hid in a bony Tube, hollowed in the *Os Petroſum*, almoſt at the bottom of the Drum, and fix'd in the Head of the *Stapes*.

The Noſe hath ſeven Muſcles, that is to ſay, one Common, and ſix Proper: The Common conſtitutes part of the orbicular Muſcle of the Lips, and draws the Noſe downward with the Lip.

Of

Of the ſix Proper Muſcles of the Noſe, four ſerve to dilate it, being ſituated on the Outſide, and two to contract it, which are placed in the Inſide.

The two firſt Dilaters of a Pyramidal Figure take their riſe in the Suture of the Forehead, and are faſtned by a large Filament to the *Alæ* of the Noſe. The two other Dilaters reſembling a Myrtle-Leaf, have their riſe in the Bone of the Noſe, and are inſerted in the middle of the *Ala*.

The two Reſtrictors are membranous, beginning in the internal Part of the Bone of the Noſe, and adhering to the inner *Ala* of the Noſtril.

The Lips have thirteen Muſcles, *viz.* eight proper, and five common: Of the proper there are four for the upper Lip, and as many for the lower; with two common for each, and the odd one.

The firſt of the proper of the upper Lip bears the Name of the *Inciſivus*, its Origin being in the hollow of the Jaw Bone below the Cheek-Bone, and its Inſertion is in the upper Lip.

The ſecond is the *Triangularis*, Antagoniſt to the former: its Riſe is on the Outſide, at the Bottom of the lower Jaw; and it is implanted in the upper Lip, near the corner of the Mouth.

The third being the *Quadratus*, ſprings from the bottom of the Chin before, and cleaves to the Edge of the lower Lip.

The fourth is the *Caninus*, Antagoniſt to the *Quadratus*, beginning in the upper Jaw-Bone, which forms a Part of the Cheek-Knot, and is terminated in the lower Lip near the Corner of the Mouth.

The firſt of the common is the *Zygomaticus*, the Origin whereof is in the *Zygoma*, and its Inſertion in the Corner of the Mouth, to draw it towards the Ears; ſo that it is this Muſcle which acts when we laugh.

The ſecond of the common is the *Buccinator* or Trumpeter, which is ſwell'd when one ſounds a Trumpet: it hath its Riſe at the Root of the Molar Teeth of both the Jaws, and is extended quite round about the Lips.

The odd Muſcle, or the thirteenth in number, is the *Orbicular*, which makes a *Sphincter* round about the Lips to cloſe or ſhut them up.

The *Uvula* or Palate of the Mouth hath four Muſcles, whereof the two firſt are the *Periſtaphylini Externi*, taking their Riſe from the upper Jaw, above the laſt Molar Tooth, and being ty'd to the Palate by a thin Tendon.

The two others are the *Periſtaphylini Interni*, which have their Beginning in the *Proceſſus Pterygoides* on the inſide, and likewiſe ſtick to the Palate.

The Tongue, altho' all over Muſculous and Fibrous, yet doth not ceaſe to have its peculiar Muſcles, which are eight in Number.

The firſt of theſe is call'd *Genioglosſus*, taking its riſe in the lower and inner part of the Chin, from whence it is extended 'till it cleaves to the Root of the Tongue before, to draw it out of the Mouth.

The ſecond is term'd *Styloglosſus*, its riſe being from the *Proceſſus Styloides*, whence it paſſeth to the ſide above the Tongue, to draw it up.

The third, bearing the Name of *Baſioglosſus*, commenceth in the *Baſis* or Root of the *Os Hyoides*, and thence inſinuates it ſelf into the Root of the Tongue, to draw it back to the bottom of the Mouth.

The fourth is the *Ceratoglosſus*, deriving its Original from the Horn of the *Os Hyoides*, and cleaving to the ſide of the Tongue, to draw it on one ſide. The Action of theſe Muſcles of both ſides together cauſeth an Orbicular Motion in the Tongue.

What is the Action of the Os Hyoides *in the Throat, and how many Muſcles hath it?*

The Uſe of the *Os Hyoides* is to ſerve for a ſupport to the Root of the Tongue; and it hath five Muſcles on each ſide, which keep it as it were ſuſpended.

The firſt of theſe, call'd the *Geniohyoidæus*, hath its beginning in the Chin on the inſide, and adheres to the Baſis of the *Os Hyoides*, which it draws upward.

The ſecond is the *Mylohyoidæus*, whoſe Origin is in the inner ſide of the lower Jaw, from whence it cleaves ſide-ways to the Root of the *Os Hyoides*, which it draws upward, and to one ſide.

The third is the *Stylohyoidæus*, which, after it hath taken its riſe in the *Apophyſis Styloides*, is faſtned to the Horn of the *Os Hyoides*, to draw it toward the Side.

The

The fourth is the *Coracohyoidæus*, which, ſpringing up from the *Proceſſus Coracoides* of the *Scapula*, cleaves to the Root and Side of the *Os Hyoides*, to draw it downward, and on one ſide.

The fifth is the *Sternohyoidæus*, that hath its beginning from the Bone of the *Sternum* on the Inſide, and is inſerted into the Root of the *Os Hyoides*, which it draws downward.

How many Muſcles hath the Larynx ?

There are thirteen, *viz.* four Common, and nine Proper. The firſt Pair of the Common is the *Sternothyroidæus* or *Bronchiæus*, which, proceeding from the Inſide and the Top of the *Sternum*, aſcends along the Cartilages of the *Trachea Arteria*, and is terminated in the bottom of the *Scutiformis* or Buckler-like Cartilage, which it draws downward. The ſecond is the *Hyothyroidæus*, which ariſes from the Root of the *Os Hyoides*, and is inſerted in that of the *Scutiforme*. This Muſcle ſerves to lift up the *Larynx*, as alſo to dilate the bottom of the *Scutiformis*, and to cloſe its top.

The firſt Pair of the Proper is the *Cricothyroidæus Anticus*, which, deriving its Original from the hinder and upper Part of the *Cricoides* or Ring-like Cartilage, is fix'd in the upper and lateral Part of the *Scutiformis*, to cloſe or ſhut it up.

The ſecond is the *Thyroides*.

The third is the *Cricoarytenoidæus Lateralis*, which proceeds from the Fore-part of the *Cricoides*, and is terminated at the bottom of the Side of the *Scutiformis Lateralis*: It ariſes from within, and on the ſide of the *Cricoides*, and is inſerted at the bottom and ſide of the *Arytenoides*, which it removes to dilate the Mouth of the *Larynx*.

The fourth is the *Thyroarytenoidæus*, which, ariſing from the Fore-part and on the Inſide of the *Scutiformis*, is terminated on the Side of the *Arytenoides*, to cloſe the Orifice of the *Larynx*.

The fifth is the *Arytenoidæus*, which, having its ſource in that Place where the *Cricoides* is united to the *Arytenoides*, is inſerted in its upper and lateral Part, to cloſe the *Larynx*.

How many Muſcles hath the Pharynx ?

It hath seven: the first whereof is the *Oesophagicus*, which takes its rise from the Side of the *Scutiformis* or Buckler-like Cartilage, and passing behind the *Oesophagus* or Gullet, is fastned to the other Side of the Cartilage. It thrusts the Meat down by closing up the *Pharynx* as a *Sphincter*.

The second, named *Stylopharingæus*, springs from within the acute *Process* of the *Os Sphænoides* or *Cuneiforme*, and is inserted obliquely in the side of the *Pharynx*, which it dilates by drawing it upward.

The third, call'd *Sphenopharyngæus*, proceeds from the *Apophysis Styliformis*, and is terminated in the side of the *Pharynx*, which it dilates by drawing its Sides.

The fourth Pair is the *Cephalopharyngæus*, which ariseth from the Articulation of the Head with the first *Vertebra*, and closeth the *Larynx*.

How many Muscles are there in the Neck, and which be they?

There are four Muscles in the Neck on each side, *viz.* two Flexors, and two Extensors. The Flexors are the *Scalenus*, and the *Rectus* or *Longus*; and the Extensors are the *Spinatus*, and the *Transversalis*.

The *Scalenus* or *Triangularis* hath two remote Origins, *viz.* one from the first Rib, and the other from the Clavicle, and is fastned to the third and fourth *Vertebræ* of the Neck.

The *Rectus* or *Longus* begins in the side of the four upper *Vertebræ* of the Back, and is joined to the upper *Vertebræ* of the Neck, and to the hinder Part of the Head.

The *Spinatus* hath its Origin from the fourth and fifth upper *Vertebræ* of the Back, and is fastned to all the six lower *Vertebræ* of the Neck.

The *Transversalis* springs forth out of the five upper *Vertebræ* of the Back, and cleaves to the Extremity of the four *Vertebræ* of the Neck.

CHAP

CHAP. VIII.

A Parallel between the Diſeaſes of the Bones and of the Fleſhy Parts.

IT is no great wonder to ſee the Bones ſubject to the ſame Diſeaſes with the Fleſh and ſoft Parts, ſince they only differ in their Solidity. The Bones are compoſed of Fibres, Veins, Arteries, Tendons, and Membranes, as well as the Fleſh.

If the Bones of new-born Animals are broken, Blood will iſſue out; which proves they have Blood-Veſſels. In adult Perſons too there are ſeveral ſmall Holes, through which the Arteries and Veins paſs which penetrate the interiour Part of the Bone, into which the little Arteries filtrate the moſt ſoft and Balſamick Parts of the Blood, which is called Marrow; and this is carried back by the Veins into the Bones to make them ſupple, pliant, and leſs brittle, and into the whole Maſs of Blood, to correct the Acids, and to ſweeten it.

The Tendons of the Muſcles are faſtned not only to the Bones, but are farther inſerted into their inmoſt Parts; and may be ſaid to be onely a Continuity of them, ſince the Proceſſes to which they are faſtned, are ſoft and Tendinous in Abortions, and require time to harden into Bone, which plainly ſhews that the Tendons are of the ſame compoſition with the Bones.

The Bones of all Abortive Animals are ſoft like Skins, and are fibrous and membranous. Some Years ſince a Woman died in the *Hôtel-Dieu*, whoſe Bones, which are ſtill kept by M. *Saviard*, Maſter Surgeon of *Paris*, are exceeding ſoft. While ſhe was living, they were ſo limber they might be bent any ways. Theſe Inſtances ſhew, that Fibres and Membranes enter into the Compoſition of Bones.

It is no longer a Wonder then, that Bones ſhould be ſubject to the ſame Diſeaſes as Fleſh, ſince both are compos'd of the ſame Parts.

The fleſhy Parts are ſubject to a Mortification, become livid, yellow, turn black by degrees, and the Parts ſepa-

rate, This is remedied by applying Compreſſes dipt in ſome ſpirituous Liquor, to recall Heat and Spirits into the Parts which begin to mortifie, having firſt ſcarify'd the Place that they may pierce deeper.

The Bones are ſubject to a *Caries*. This Diſeaſe is a true Gangrene. Conſider how they become yellow, blacken by degrees, are full of ſmall Holes, as if Worm-eaten; which Malady is more difficult to cure, the more inveterate it is.

All theſe Accidents are in a Gangrene; and the Cure of both is the ſame: that is, by applying Pledgits dipt in Brandy, Spirit of Wine, Oyl of *Guaiacum*, Oyl of Cloves, and other ſpirituous Liquors, having firſt ſcraped the Bone, that theſe ſpirituous Remedies may the better inſinuate themſelves.

The fleſhly Parts are ſubject to a *Sphacelus* or a compleat Mortification. They are black, rotten, emit a *Sanies*, and ſend forth a cadaverous Stench. This fierce Diſeaſe admits no other Remedy but the Knife and actual Cautery: you muſt remove the Fleſh, and often make an Amputation of the Part.

The Bones are ſphacelated likewiſe, become black inwardly, and there comes away a ſtinking *Sanies*: they are then to be managed only with the Knife and Fire; red hot Irons muſt be applied to them, to ſeparate the mortified Part from the ſound, if any remain ſo; if not, the Limb muſt be taken off.

The fleſhy Parts are ſubject to Ulcers, that is, to Tumours which have a ſtinking *Sanies* flowing from them.

The ſame Diſeaſe happens to the Bones. Thoſe who have rotten Teeth are too well convinc'd of the Truth of this, from the inſupportable Stench and ill Taſte in their Mouths.

The fleſhy Parts are attack'd with *Cancers*.

The Bones are alſo ſubject to this fierce Diſeaſe. I ſhall mention one Inſtance taken out of the *Miſcellanea curioſa*. There came forth a large black Tooth on the left Side of the Mouth in a Child of a Year old, whoſe Habit of body was meagre, and Skin ſomething diſcolour'd. The Parents, though ſurpriz'd at firſt, yet finding the Child ſuffer'd no Inconvenience, though it continu'd ſo for a whole Twelvemonth, neglected to

ſhew

ſhew it. But perceiving that all the other Teeth which came out were black, they call'd in a Surgeon, who not underſtanding the Nature of the Diſtemper, ſcarify'd the Swelling on the Gum, which ulcerated the Gum and whole Cheek. This oblig'd the Relations to call in a Phyſician, who found this Swelling was a Cancer, which begun at the Tooth, and had been irritated by the ſharpneſs of the Remedies, which had made a foul ſtinking Ulcer horrible to behold. The Phyſician preſcrib'd a cooling and moiſt Diet upon account of the Hectic Fever, and order'd ſome Lotions for the Mouth. This Cancer extended quite to the Temporal Muſcle; and Convulſions enſued, which kill'd the Child. This *Cancer*, which had its Root in one Tooth only, extended it ſelf pretty far without doing any Damage to the other Teeth. The Bones then are ſubject to *Cancers* as well as the Fleſh.

Ruptures are Diſlocations of the Inteſtines, which ſometimes happen in one, and at other times in other Parts. For curing them you muſt reduce the Parts into their natural Place, and keep them in it by Bandages.

The Bones are ſubject to the ſame Diſeaſes; their Diſplacing or Luxation happens ſometimes to one Part and ſometimes to another. For the curing them you muſt put them into their natural Place, and keep them in with Bandages.

Contuſions and Bruiſes happen to the Fleſh, and you are ſometimes oblig'd to ſuppurate theſe to ſeparate the bruiſed Fleſh from the ſound.

When the Bones have receiv'd ſome violent blow, their Fibres cling together and ſtart out of their Places, and by this means grow black and carious. For the remedying this you often are obliged to exfoliate them, in order to ſeparate the corrupted from the ſound Part. This Exfoliation may be look'd on as a Suppuration of the Bones.

The fleſhy Parts are glew'd together, as the Fingers and other Parts after great Burns.

And this is often too true, that Bones do the ſame, as happens in *Anchyloſes*, when a Limb is left too long in the ſame Poſture without bending or extenſion.

Fleſhy Parts are ſeiz'd with *Eriſypelas*, that is, ſuperficial Swellings, which are produc'd by a ſubtil and volatile

volatile Acid, which makes a Feverish Effervescence with the Volatile Salt of the Mass of Blood, and extends a pretty way over the Skin, where it coagulates the Blood in the external Vessels, and disposes it to a Stagnation.

To cure these Swellings, the proper Remedies are Diaphoreticks, Volatile Spirits of Hartshorn, Diaphoretick Antimony, using outwardly the Decoction of Myrrh, Male Frankincense, made in Wine with a little Camphire, Spirit of Wine alone, or with a little Camphire or Saffron to foment the *Erisypelas*, and other Resolvents.

Exostoses in Bones are of a like Nature. There are Bones distended and swoln by the lodging of Humours, which filter through the Channels of the Bones, and insinuate themselves into their Substance. For the curing these Diseases, the same Remedies are used as in *Erisypelas*; for the most proper internal Remedies are Diaphoreticks and Volatile Spirits, and the most proper external ones are Resolvents.

The fleshy Parts have Abscesses and Tumours, and

The Bones are subject to Swellings, as we shall see hereafter in the Rickets.

The fleshy Parts are divided and broken by Falls and Blows. To cure these, it is necessary to re-unite the Lips of the Wounds by binding them up, or to promote the Generation of new Flesh, if there be a loss of Substance.

It happens but too often that the Bones are broken. And then the Ends must be brought together, that they may agglutinate, and they must be kept in this Posture with Bandages, almost in the same manner as the Lips of a Wound; and if there be a loss of Substance, there must be Time allow'd for the Bone to grow and fill up the Interstices, as happens to Bones of the Head after Trepanning.

When the fleshy Parts have receiv'd any Blow, the Lips of the Wound recede so far from one another, that it is difficult to bring them together.

The Bones too sometimes suffer Divulsions, as the *Tibia* from the *Perone*, and the *Cubit* from the *Radius*.

The fleshy Parts sometimes sink down, and often the Nipple falls so deep into the Breast, that it hinders the Woman from giving suck.

The

The Bones are depreſt likewiſe, which happens to thoſe whoſe Bones continue tender and ſoft, which often have Depreſſions without breaking. I ſhall mention ſome Examples of this out of *Fabricius Hildanus.*

He tells us, *Cent.* 3. *Obſ.* 12. That he had ſeen an Infant of ten Years old who had a great Depreſſion on the Occipital Bone by a Fall. There ariſing no dangerous Accidents, the Parents neglected to have Care taken of the Wound. The Child by degrees loſt both its Memory and Judgment. Though before its Fall it had a deal of Wit, it could not after follow its Studies, or learn any Trade, and at 36 Years of Age became intirely ſtupid.

The ſame Author relates farther, that a Child of three Years of Age fell on its Forehead, and made a Depreſſion of the Bone, large enough to put the end of the little Finger into. All the Remedy us'd, was a Compreſs dipt in Spirit of Wine and laid on the Wound; which was renew'd every Day: the Infant was cur'd, and ſuffer'd no Inconvenience. Theſe Examples ſhew us, that Bones ſuffer a Depreſſion, as well as Fleſh. And farther they evince, that all the Functions of the Soul are not perform'd in all Parts of the Brain, ſince the former became wholly incapable of all Learning, nay wholly ſtupid, while the other ſuffer'd no remarkable Accident.

The fleſhy Parts leſſen their Bulk, and the Body grows lean.

The Bones grow lean too, and are much leſſen'd. I ſhall give you a ſurprizing Inſtance. A certain Perſon having a continu'd Pox, his Bones became ſo weak and ſlender, that he broke his Arm by lifting a five or ſix Pound Weight. When we examine the Bones of ſuch as have dy'd of the Pox, we find them all corroded within, and extremely ſlender. Theſe Examples ſhew us, that the Bones waſte as well as the Fleſh.

Let any Man, if he pleaſes, examine all the Diſeaſes which happen to the fleſhy Parts, and he will find they happen to the Bones likewiſe, and are to be treated in the ſame manner.

This is moſt of what I could gather from the learned Parallel of the Diſeaſes of the fleſhy Parts and of the Bones, made by the famous M. *Arnaud*, in the

the ſtately Amphitheatre of St. *Coſmus*, but which no more repreſents the Diſcourſe of that skilful Operator, than Shadows do Sun-ſhine, or Copies an Original.

CHAP. IX.

Of the Myology or Anatomy of the Muſcles of the Trunk, or of the Breaſt, Belly, and Back.

HOW many Muſcles are there in the Breaſt, and which be they?

The Breaſt hath fifty ſeven Muſcles, that is to ſay, thirty that ſerve to dilate it, twenty ſix whoſe Office is to contract it, and the *Diaphragm* or Midriff which partakes of both Actions.

The thirty which dilate the Breaſt are equally plac'd on both Sides, to the Number of fifteen on each, *viz.* the *Subclavius*, the *Serratus Major Anticus*, the two *Serrati Poſtici*, and the eleven external *Intercoſtals*.

The twenty ſix which contract the Breaſt are likewiſe equally rank'd to the Number of thirteen on each Side, *viz.* the *Triangularis*, the *Sacrolumbus*, and eleven internal *Intercoſtals*.

The *Subclavian* takes up the whole Space between the Clavicle and the firſt Rib: its Original being from the internal and lower Part of the *Clavicula*, and its Inſertion in the upper Part of the firſt Rib.

The *Serratus Major* is a large Muſcle, having ſeven or eight Indentings or Jaggs. It takes its riſe from the interiour Baſis of the *Scapula* or Shoulder-blade, and its Jaggings are inſerted in the five lower true Ribs, as alſo in the two upper ſpurious Ribs.

The *Serratus Poſticus Superior* begins with a large *Aponeuroſis* in the Proceſſes of the three lower *Vertebræ* of the Neck, and of the firſt of thoſe of the Back; then paſſing under the *Rhomboid*, it is join'd obliquely by four Indentings to the four upper Ribs.

The *Serratus Poſticus Inferior* commenceth in like manner

manner with a large *Aponeuroſis* from the Proceſſes of the three lower *Vertebræ* of the Back, and of the firſt of thoſe of the Loins, and is afterwards faſtened by four Digitations to the four lower Ribs.

The eleven *External Intercoſtal* Muſcles are ſituated in the Spaces between the twelve Ribs, paſſing obliquely and on the outſide from the back Part to the fore Part. They take their Riſe below the upper Rib, and have their Inſertion above the lower Rib.

The *Triangularis* is the firſt of thoſe that contract the Breaſt, and poſſeſſeth the inward Part of the *Sternum*: its Original is from its lower Part, and its Inſertion in the top of the Cartilages of the two upper Ribs.

The *Sacrolumbus* hath its riſe in the hinder Part of the *Os Sacrum*, as alſo from the *Vertebræ* of the Loins; and aſcending from thence, inſinuates it ſelf into the hinder Part of the Ribs, to every one of which it imparts two *Tendons*, one whereof adheres on the out ſide, and the other on the inſide. This Muſcle is fleſhy within, and fibrous without.

The eleven *Internal Intercoſtals*, contrary to the External, derive their Original from the top of every Lower-Rib, and aſcend obliquely from the Back-part to the Fore-part, till they are join'd to the lower Edge of every upper Rib. Thus theſe Internal Muſcles, with the External, form, by the oppoſition of their Fibres, a Figure reſembling a St. *Andrew*'s Croſs.

The Diaphragm or Midriff is eſteem'd as the fifty ſeventh Muſcle of the Breaſt, and ſerves as well for its dilatation as contraction. It ſeparates the *Thorax* or Cheſt from the lower Belly, and is ty'd circularly to all the Extremities of the Baſtard Ribs, immediately under the *Xiphoides* or Sword-like Cartilage.

Modern Anatomiſts have diſcover'd that the Diaphragm is compos'd of two Muſcles, *viz.* one Upper and the other Lower; ſo that the Upper cleaves to the Extremities of the Spurious Ribs, and is terminated in a flat *Tendon* in the Middle, which hath been always taken for its Nervous Part. The Lower begins with two Productions, the Longeſt whereof, being on the Right-ſide, ariſeth from the three upper *Vertebræ* of the Loins, and the other on the Left from the two *Vertebræ* of the Back, 'till it is loſt in the *Aponeuroſis* of the Upper Muſcle.

How

How many Muſcles are there in the Back and the Loins, and which be they?

There are three on each Side, *viz.* one for Flexion, and the two others for Extenſion.

The *Triangularis* is the *Flexor*, taking its riſe in the hinder Part of the Rib of the *Os Ilion*, and the inner Part of the *Os Sacrum*, in paſſing from whence it is join'd to the laſt of the Baſtard Ribs, and to the tranſverſe Productions of the *Vertebræ* of the Loins.

The *Extenſors* are the *Sacer*, and the *Semiſpinatus*, which make the Waſte ſtrait, and are ſo interwoven along the Back-bone, that one would imagine that there were as many Pairs of Muſcles as *Vertebræ*, affording *Tendons* to all.

The *Sacer* ſprings from behind the *Os Sacrum*, as alſo from the hinder and upper Extremity of the *Os Ilium*, and is inſerted in the Spines of the *Vertebræ* of the Loins and of the Back.

The *Semi-ſpinatus* hath its riſe from the Spines of the *Os Sacrum*, and is join'd to all the tranſverſe Productions of the *Vertebræ*, from the Back to the Neck, being exactly ſituated between the *Sacer* and the *Sacro-lumbus*.

CHAP. X.

Of the Myology or Anatomy of the Muſcles of the Lower Belly.

HOW many Muſcles are there in the lower Belly, and which be they?

There are generally ten, five on each Side, that is to ſay, two *Obliqui*, one aſcending, and the other deſcending; one *Tranſverſus*, one *Rectus*, and two Pyramidal, of which laſt, there is ſometimes only one, and ſometimes none at all.

The *Obliquus deſcendens*, which is the firſt, hath its Original by Digitation from the ſixth and ſeventh of the true Ribs, from all the ſpurious Ribs, and the tranſverſe *Proceſſes* of the *Vertebræ* of the Loins, and comes near

to

to the *Serratus Major Anticus* of the Breaſt; from whence it proceeds to the external Ridge of the *Os Ilion*, and is terminated by a large *Aponeuroſis* in the *Linea Alba* or *White Line*, which ſeparates the Muſcles that are on each ſide of the *Abdomen* or lower Belly.

The *Obliquus Aſcendens* ariſeth from the upper Part of the *Os Pubis*, and the Ridge of the Hip-Bone or *Ilion*, till it cleaves to the *Proceſſes* of the *Vertebræ* of the Loins, to the Extremities of all the Ribs, and to the *Xiphoides* or Sword-like Cartilage, and is terminated in the White Line by a large *Aponeuroſis*.

The *Rectus* being ſituated between the *Aponeuroſis* of the *Obliqui*, takes its riſe from the Cartilages of the Ribs, the *Xiphoides*, and the *Sternum*, and enters into the *Os Pubis*, having many Nervous Parts croſs-wiſe to corroborate it in its length.

The *Tranſverſus*, having its beginning in the tranſverſe *Apophyſes* of the *Vertebræ* of the Loins, is faſtned to the internal Rib of the *Os Ilium*, and within the Cartilages of the lower Ribs, and is terminated by a large *Aponeuroſis* in the *Linea Alba*, paſſing over the *Rectus*, and ſticking to the *Peritonæum*.

The Oblique Muſcles, and the Tranſverſe, have Holes toward the Groin, to give Paſſage to the Spermatick Veſſels of Men, and to the round Ligament of the Womb in Women. Here it is that Ruptures or Burſtenneſs happen in both Sexes, although the Holes of theſe three Muſcles are not ſituated one over againſt another.

The Pyramidal, ſo named by reaſon of its Figure, is ſituated on the lower *Tendon* of the *Rectus*; its Origin being in the upper and external Part of the *Os Pubis*; but it is terminated in the white Line, three Fingers breadth above the *Pubes*, and ſometimes even in the Navel it ſelf. Theſe Muſcles are not found in all Bodies, for there are ſometimes two, ſometimes only one, and ſometimes none.

The uſe of the Muſcles of the lower Belly is to compreſs all the contain'd Parts, in order to aſſiſt them in expelling the Excrements.

How many Muſcles are there in the Teſticles?

They have each of them one, call'd *Cremaſter*. This Muſcle takes it riſe from the Ligaments of the *Os Pubis*, and

and by the dilatation of its Tendon covers the Testicle, which it draws upward.

How many Muscles hath the Penis?

It hath two Pair, *viz.* the *Erectores* or *Directores*, and the *Dilatantes*. The *Erectores* arise from the internal Part of the *Os Ischion*, under the beginnings of the *Corpora Cavernosa*, where they are inserted, and lose their Fibres in their Membranes. The *Dilatantes* or *Acceleratores* have their Source in the *Sphincter* of the *Anus*, and slipping from thence obliquely under the *Ureter*, are join'd to the Membrane of the nervous Bodies.

How many Muscles are there in the Clitoris?

It hath two Erectors which spring forth from the Protuberance of the *Os Ischion*, and are inserted in the Nervous Bodies of the *Clitoris*. There are two others, suppos'd to be its Elevators, which proceed from the *Sphincter* of the *Anus* and are terminated in the *Clitoris*.

How many Muscles are there in the Anus?

There are three, *viz.* the *Sphincter*, and two *Levatores*. The *Sphincter* is two Fingers broad, to open and close the *Rectum*. This Muscle being double, is fastned in the Fore-part to the *Penis* in Men, and to the Neck of the Womb in Women, as also behind to the *Coccyx*, and laterally to the Ligaments of the *Os Sacrum*, and to the Hips.

The two *Levatores* arise from the inner and lateral Part of the *Os Ischion*, and are fastned to the *Sphincter* of the *Anus*, to lift it up after the expulsion of the Excrements.

The *Bladder* hath also a *Sphincter* Muscle to open and shut its Orifice.

CHAP.

CHAP. XI.

Of the Muſcles of the Scapulæ *or Shoulder-Blades, of the Arms, and Hands.*

HOW many Ways doth the Scapula *or Shoulder-Blade move, and what are its Muſcles?*

The *Scapula* moves upward, downward, forward, and backward, by the Means of four proper Muſcles, which are the *Trapezius*, the *Rhomboides*, the proper *Levator*, and the leſſer *Pectoral* or *Serratus Minor Anticus*.

The *Trapezius* or *Cucullaris* hath its beginning from the back Part of the *Occiput*, or hinder Part of the Head, from the Spines of the ſix lower *Vertebræ* of the Neck, and of the nine upper of the Back; in paſſing from whence it is implanted in the Spine of the Shoulder-Blade, and in the external Part of the *Clavicula*, as far as the *Acromion*. This Muſcle produceth many Motions, by reaſon of its different Fibres, drawing the Shoulder-Blade obliquely, upward, downward, and forward.

The *Rhomboides* is ſituated over the *Trapezius*, its riſe being in the Proceſſes of the three lower *Vertebræ* of the Neck, and of the three upper of the Back, but it is afterward join'd to the whole *Baſis* or Root of the *Scapula*, which it draws backward.

The proper *Levator* commenceth in the *Tranſverſe* Proceſſes of the four firſt *Vertebræ* of the Neck, by different Progreſſions, but is afterward re-united, and inſerted in the upper Corner of the *Scapula*, which it draws upward.

The *leſſer Pectoral* or *Serratus Minor Anticus*, is ſituated under the great *Pectoral*, its riſe being by Digitation or Indenting in the ſecond, third, and fourth of the upper Ribs, and its Inſertion in the *Proceſſus Coracoides* of the Shoulder-Blade, which it draws forward.

How many Motions are there in the Humerus *or Arm, which be they, and what are its Muſcles?*

The Arm performs all ſorts of Motions by the help of nine Muſcles: for it is lifted up by the *Deltoides* and the *Supra-Spinatus*; it is depreſs'd by the *Largiſſimus*, and the *Rotundus Major*; it is drawn forward by the *Pectoralis*

Major, and the *Coracoidæus*; it is drawn backward by the *Infra-Spinatus*, and the *Rotundus Minor*; it is drawn near to the Ribs by the *Subscapularis*; and its circular Motion is perform'd when all these Muscles act together successively.

The *Deltoides* or *Triangular* hath its beginning from the whole Spine of the *Scapula*, the *Acromion*, and half the *Scapula*; and by its point cleaves with a strong *Tendon* to the middle of the Arm.

The *Supra-Spinatus* takes its rise in the Cavity that lies above the Spine of the *Scapula*, which it fills, passing over the *Acromion*, until it is join'd to the Neck of the Shoulder-bone, which it surrounds with a large *Tendon*.

The *Largissimus*, otherwise call'd *Ani-Scalptor*, covers almost the whole Back, proceeding from a large and nervous Stock, in the third and fourth lower *Vertebræ* of the Back, the five *Vertebræ* of the Loins, the Spine of the *Os Sacrum*, the hinder part of the Ridge of the *Os Ilion*, and the external part of the lower bastard Ribs, in passing from whence it insinuates it self into the lower Corner of the *Scapula*, as also into the upper and inner part of the *Humerus*.

The *Rotundus Major* or *Teres Major*, having its Origin from the external Cavity of the lower corner of the *Scapula*, is confounded with the *Largissimus*, and adheres with it by the same *Tendon* to the upper and inner Part of the *Humerus*, a little below the Head.

The greater *Pectoral* hath its Source from half the *Clavicula*, on the side of the *Sternum*; covers the fore-part of the Breast, and is fastened, by a short, broad, and nervous *Tendon*, to the top of the Shoulder-bone, on the inside, between the *Biceps* and the *Deltoides*.

The *Coracoidæus* or *Coracobrachiæus*, beginning from the *Processus Coracoides* of the *Scapula* or Shoulder-blade, adheres to the middle of the Arm on the inside, which with the *Pectoral* it draws forward.

The *Infra-Spinatus* fills the Cavity which lies below the Spine of the *Scapula*, its Origin being from the lower side of the *Scapula*, from whence it passeth between the Spine and the *Rotundus Minor*, to cleave to the Neck of the Shoulder-bone, which it embraceth, and draws backward.

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The *Rotundus Minor* or *Teres Minor*, proceeds from the lower ſide of the *Scapula*, and adheres to the Neck of the Shoulder-bone with the *Infra-Spinatus*, to draw it in like manner backward.

The *Sub-ſcapularis* or *Immerſus* is ſituated intirely under the *Scapula*, proceeding from the internal ſide of the *Baſis* or Root of the ſame, and being terminated in the Neck of the Shoulder-bone, which it cauſeth to lie cloſe to the Ribs.

How many Motions are there in the Cubitus *or lower Arm, and what are its Muſcles?*

The *Cubitus* or *Ulna* is endued with two ſorts of Motion, *viz.* that of Flexion, and that of Extenſion: the former being perform'd by the help of two Muſcles, that is to ſay, the *Biceps*, and the *Brachiæus Internus*; and the latter by four others, which are the *Longus*, the *Brevis*, the *Brachiæus Externus*, and the *Anconius*.

The *Biceps* is a Muſcle with two Heads, one whereof proceeds from the *Proceſſus Coracoides*, and the other from the Cartilaginous edge of the *Glenoid* Cavity of the Shoulder-Blade. Theſe two Heads deſcend along the fore-part of the Arm, and are united in one and the ſame Body, from whence ſprings forth a Ligament, which is inſerted in a tuberoſity ſituated in the upper and fore-part of the *Radius*.

The *Brachiæus Internus* is a ſmall fleſhy Muſcle, lying hid under the *Biceps*, which takes it riſe from the upper and fore-part of the *Humerus*, and is implanted in the upper and inner part of the *Radius*, to bend the Elbow with the *Biceps*.

The firſt of the four Extenders is the *Longus*, having two Origins, *viz.* one from the lower Side of the *Scapula* near its Neck, and the other deſcending to the hinder-part of the Arm, 'till it is ty'd to the *Olecranum* or *Ancon*, by a ſtrong *Aponeuroſis*, which is common thereto, with the *Brevis*, and the *Brachiæus Externus*.

The *Brevis* or ſhort Muſcle of the Cubit, ariſing from the hinder and fore-part of the *Humerus*, is faſtened to the *Olecranum* with the *Longus*.

The *Brachiæus Externus* is a fleſhy Muſcle, which proceeds from the hinder part of the *Humerus*, and adheres to the *Olecranum* with the *Brevis* and the *Longus*.

The *Anconæus* or *Cubitalis*, being ſituated behind the Fold of the *Cubitus*, is the leaſt Muſcle of all: it ſprings from the Extremity of the Arm-Bone, at the end of the *Brevis* and the *Longus*, and in deſcending is inſerted between the *Radius* and the *Cubitus* or *Ulna*, three or four Fingers breadth below the *Olecranum*.

How many Muſcles hath the Radius, *and what are its Motions?*

The *Radius* is endu'd with a two-fold Motion, by the Means of four Muſcles: of theſe the *Rotundus* and *Quadratus* cauſe that of *Pronation*, as the *Longus* and the *Brevis* that of *Supination*.

The *Pronator Superior Rotundus*, or round Muſcle of the *Radius*, commenceth from the inner Proceſs of the Shoulder-Bone, in a very fleſhy Stock, and is terminated obliquely by a Membranous *Tendon* towards the middle and exterior Part of the *Radius*.

The *Pronator Inferior Quadratus*, ſpringing forth from the Bottom and Inſide of the *Cubitus*, is fix'd in the lower and outward Part of the *Radius* by a Tail as large as its Head. This Muſcle, lying hid under the others near the Wriſt, is that which jointly with the *Rotundus*, turns the Arm with the Palm of the Hand downward; which is the Motion of *Pronation*.

The *Longus* is the firſt of the *Supinators*, whoſe Origin is three or four Fingers breadth above the external Proceſs of the Arm-Bone; from whence it paſſeth along the *Radius*, and cleaves to the inner Part of its lower Proceſs.

The *Brevis*, or the ſecond of the *Supinators*, ariſing from the lower Part of the *Inferior* and external *Condylus* of the *Humerus*, is twiſted round about the *Radius*, going forward from the hinder-part till it is united to its upper and fore-part. This Muſcle, with the *Longus*, ſerves to turn the Arm and the Palm of the Hand upward, and produceth the Motion of *Supination*.

How many Sorts of Motions belong to the Wriſt, and what are its Muſcles?

Two ſeveral Motions are perform'd by the Wriſt, *viz.* one of Flexion, and the other of Extenſion, three Muſcles being appropriated to the former, and as many to the latter. But it ought to be obſerv'd, that a ſtrong Ligament call'd the *Annular*, appears here, which ſurrounding

all

all the *Tendons* of the Muſcles as it were a Bracelet, holds them together, and elſewhere ſerves to unite the two Bones of the Cubit.

The three Flexors or bending Muſcles of the Wriſt are the *Cubitæus Internus*, the *Radiæus Internus*, and the *Palmaris*.

The *Cubitæus Internus* derives its Original from the inner Part of the Arm-bone, paſſeth under the Annular Ligament, and is ty'd by a thick *Tendon* to the ſmall Bone of the Wriſt, which is plac'd above the others.

The *Radiæus Internus* proceeds from the ſame Place with the *Cubitæus*, and is faſtened to the firſt Wriſt-bone which ſupports the Thumb. It lies along the *Radius*, and paſſeth under the *Annular* Ligament.

The *Palmaris* is reckon'd among the Flexors of the Wriſt, although ſituated in the Palm of the Hand. It ariſeth from the inner Proceſs or Knob of the Arm-bone, and is united by a large *Tendon* to the firſt *Phalanges* of the Fingers, paſſing above the Tranſverſe or *Annular* Ligament, and cleaving cloſe under the Skin of the Palm of the Hand.

The three extending Muſcles of the Wriſt are the *Cubitæus Externus*, and the *Radiæus Externus* or the *Longus*, and the *Brevis*.

The *Cubitæus Externus*, taking its riſe from the hinder Part of the Cubit, paſſeth under the *Annular* Ligament, and adheres to the upper and outward Part of the Bone of the *Metacarpus* that ſtayeth the little Finger.

The *Radiæus Externus* or the *Longus*, having its Origin from the edge of the lower part of the Arm-Bone, ſlides from thence along the *Radius* on the Outſide, extends it ſelf under the *Annular* Ligament, and cleaves to the Wriſt-Bone, which ſtays the Fore-finger.

The *Brevis* or ſhort Muſcle of the Wriſt ſprings from the lower Part of the ſame Edge; afterward it runs along the *Radius*, paſſeth under the *Annular* Ligament, and is terminated in the Bone of the *Carpus* or Wriſt, which ſtays the middle Finger.

But we muſt take Notice, that beſides theſe ſix Muſcles, there is alſo *Caro quædam quadrata*, or a ſquare Piece of Fleſh under the *Palmaris*, which ſeems to ariſe from the *Tenar*, and cleaves to the eighth Wriſt-bone. It is ſuppos'd that this muſculous piece of Fleſh ſerves, with the

Hypotenar of the little Finger, to make that which is call'd *Diogenes's Cup.*

How many Motions are there in the Fingers, and what are their Muſcles?

The Fingers are bent, extended, and turn'd from one Side to the other, by means of twenty three Muſcles, whereof ten are proper, and thirteen common. The latter are thoſe that ſerve all the Fingers in general; and the other thoſe that are particularly ſerviceable to ſome of them.

The common are the *Sublimis*, the *Profundus*, the common *Extenſor*, the four *Lumbricales*, and the ſix *Interoſſei*.

The *Sublimis* or *Perforatus*, ariſing from the internal Part of the lower Proceſs of the *Humerus* or Shoulder-Bone, is divided into four *Tendons*, which run below the *Annular* Ligament of the Wriſt, and are inſerted in the ſecond *Phalanx* of the Bones of the four Fingers, after cleaving, as they paſs along, to thoſe of the firſt *Phalanx*, to help to bend it. It is alſo obſerv'd, that every one of theſe *Tendons* hath a ſmall Cleft in its Length, to let in the *Tendons* of the *Profundus*.

The *Profundus* or *Perforans* lies under the *Sublimis*, deriving its Original from the top of the *Cubitus* and *Radius*. It creeps along theſe two Bones, and is divided into four *Tendons*, which paſs under the *Annular* Ligament, and ſlip into the Fiſſures of the *Tendons* of the *Sublimis*, to adhere to the third *Phalanx* of the Fingers, which they bend with the *Sublimis*: ſo that theſe two Muſcles make together the bending of the Fingers.

The *Extenſor Magnus* is that which extends the four Fingers. It ſprings from the external and lower Proceſs of the Arm-Bone, and is divided into four flat *Tendons*, which paſs under the *Annular* Ligament, and cleave to the ſecond and third *Phalanx* of the Fingers.

The four *Lumbricales* or *Vermiculares* are in the Palm of the Hand, to draw the Fingers to the Thumb: they proceed from the *Tendons* of the *Profundus*, and of the *Annular* Ligament, extend themſelves along the Sides of the Fingers, and are inſerted into their ſecond Articulation, to draw them toward the Thumb.

The

The three *Interoſſæi Interni*, and the three *Externi*, are ſituated between the four Bones of the *Metacarpus*, as well on the Inſide of the Hand, as without. They have their beginning in the Intervals or Spaces between the Bones of the *Metacarpus*, are united with the *Lumbrical*, and fix'd in the laſt Articulation of the Bones of the Fingers, to produce the Motion of drawing back or removing from the Thumb.

The Thumb is mov'd by five particular Muſcles; one whereof ſerves to bend it, two to extend it, one to remove it from the Fingers, and another to draw it to them.

The *Flexor* of the Thumb takes its riſe from the upper and inner Part of the *Radius*, paſſeth under the *Annular* Ligament, as alſo under the *Tenar*, and adheres to the firſt and ſecond Bone of the ſame Thumb to bend it.

The two *Extenſors* of the Thumb are the *Longior* and the *Brevior*. The former proceeding from the upper and outward Part of the *Cubitus*, aſcends above the *Radius*, and is ty'd with a forked *Tendon* to the ſecond Bone of the Thumb. The *Brevior* hath the ſame Origin with the *Longior*, keeps the ſame Track, paſſeth under the *Annular* Ligament, and is terminated in the third Thumb-Bone.

The *Tenar* removes the Thumb from the Fingers, and forms that Part which is call'd the *Mount of Venus*. It hath its riſe from the firſt Bone of the *Carpus* or Wriſt, and the *Annular* Ligament, and is inſerted in its ſecond Bone.

The *Antitenar* draws the Thumb to the other Fingers, having its Origin in the Bone of the *Metacarpus*, that ſtays the middle Finger, and its Inſertion is in the firſt Bone of the Thumb.

The Muſcle which ſerves to extend the Fore-finger, is call'd *Indicator*. It proceeds from the middle and outer Part of the *Cubitus*, and is fixt, by a double *Tendon*, in the ſecond Articulation of the Fore-finger, to the *Tendon* of the great *Extenſor* of the Fingers.

That which draws the Fore-finger to the Thumb is term'd *Adductor*. It commenceth in the Fore-part of the firſt Thumb-bone, and is terminated in the Bones of the Fore-finger.

That which removes the Fore-finger from the Thumb is known by the Name of *Abductor*; which, ariſing out of the external and middle Part of the Bone of the Cubit, and paſſing under the *Annular* Ligament, cleaves to the Lateral and outward Part of the Bones of the Fore-finger.

The Little-finger hath two proper Muſcles, *viz.* an *Extenſor*, and an *Abductor*.

The *Extenſor* ſprings from the lower Part of the *Condylus* of the Arm-Bone, and is faſtened by a double *Tendon* in the ſecond Articulation of the Little-finger, and in the *Tendon* of the *Extenſor* of all the others.

The *Abductor*, call'd alſo *Hypotenar*, hath its beginning from the ſmall Bone of the Wriſt, which is ſituated over the others, and is terminated in the firſt Bone of the Little-finger on the out-ſide.

CHAP. XII.

Of the Muſcles of the Thighs, Legs, and Feet.

WHAT are the Motions of the Thighs?

The Thigh performs five kinds of Motion; for it is bent, extended, drawn within ſide, and without, and turn'd round. All theſe Motions are produc'd by the Means of fourteen Muſcles, *viz.* three *Flexors*, three *Extenſors*, three *Adductors*, three *Abductors*, and two *Obturators* for the circular Motion.

The *Flexors* of the Thigh are the *Pſoas*, *Iliacus*, and *Pectinæus*.

The *Pſoas* or *Lumbaris* is ſituated inwardly in the *Abdomen*, on the Side of the *Vertebræ*. It proceeds from the tranſverſe Proceſſes of the lower *Vertebræ* of the Back, and of the upper of the Loins, and lying on the inner Face of the *Os Ilion*, cleaves to the leſſer *Trochanter* or *Rotator*.

The *Iliacus Internus* hath its Origin in all the Lips of the inner Cavity of the *Os Ilion*, and being join'd by a *Tendon* to the *Lumbaris*, is inſerted with it in the leſſer *Trochanter*.

The

The *Pectinæus* takes its riſe from the fore-part of the *Os Pubis*, and is united before to the Thigh-Bone, a little below the leſſer *Trochanter*.

The *Extenſors* of the Thigh are the *Glutæus Major*, *Medius*, and *Minimus*.

The *Glutæus Major* ſprings forth out of the lateral Part of the *Os Sacrum*, as alſo the hinder and outer Part of the *Os Ilion* and *Coccyx*, and enters into the Thigh-bone, four Fingers breadth below the great *Trochanter* or *Rotator*, being the thickeſt of all the Muſcles of the Body.

The *Glutæus Medius*, deducing its Original from the hinder and outer Part of the *Os Ilion*, is inſerted three Fingers breadth below the great *Trochanter*.

The *Glutæus Minimus* ariſeth from the bottom of the Cavity of the *Os Ilion*, and is faſtened to a ſmall Hole of the great *Trochanter*.

The *Adductors* of the Thigh are the *Triceps Superior*, *Medius*, and *Inferior*.

The *Triceps Superior* hath its beginning in the top of the *Os Pubis*, and is terminated in the top of a Line, which is on the Inſide of the Thigh.

The *Triceps Medius*, proceeding from the middle of the *Os Pubis*, is inſerted in the Thigh-bone a little lower than the *Triceps Superior*.

The *Triceps Inferior* hath its Source in the bottom of the *Os Pubis*, and is implanted in the Thigh-Bone, a little lower than the *Triceps Medius*. Some Anatomiſts make only one Muſcle of theſe three, attributing thereto three Originals and three Inſertions. Theſe Muſcles ſerve to draw the Thighs one againſt another.

The *Abductors* of the Thigh are the *Iliacus Externus* or *Pyriformis*, the *Quadratus*, and the *Gemelli*.

The *Pyriformis* ariſing from the upper and lateral Part of the *Os Sacrum*, and of the *Os Ilion*, cleaves to the Neck of the great *Trochanter*.

The *Quadratus* or ſquare Muſcle of the Thigh, takes its Origin from the External Prominence of the *Os Iſchion*, and adheres to the outward Part of the great *Trochanter*.

The *Gemelli*, or Twin-Muſcles, ariſe from two ſmall Knobs in the hinder Part of the *Iſchion*, and inſinuate themſelves into a ſmall Cavity in the Neck of the great *Trochanter*.

The

The Circular Motion of the Thigh is perform'd by the means of two Muſcles, nam'd the *Obturatores Externi* and *Interni.*

The *Obturator Internus* ſprings from the inner Circumference of the Oval Hole of the *Iſchion*, and its *Tendon*, paſſing between the two *Gemelli*, is inſerted in a ſmall Cavity at the Root of the great *Trochanter* or *Rotator.*

The *Obturator Externus* ariſeth from the outward Circumference of the ſame Hole of the *Iſchion*, and is terminated in the Side of the other, near the great *Trochanter.*

What are the Motions of the Leg, and what are its Muſcles?

The Leg is mov'd four ſeveral ways, that is to ſay, is is bent, extended, and drawn inward, and outward, by the means of eleven Muſcles, *viz.* three *Flexors*, four *Extenſors*, two *Adductors*, and two *Abductors.*

The three *Flexors* of the Leg, are the *Biceps*, the *Semi-nervoſus*, and the *Semi-membranoſus.*

The *Biceps* hath two Heads, the longer whereof cometh out of the bottom of the Prominence of the *Iſchion*, and the other from the middle and exterior Part of the *Femur*, and is terminated in the outward and upper Part of the *Ephiphyſis* of the *Perone* or *Fibula.*

The *Semi-nervoſus* hath its Origin in the Knob of the *Iſchion*, and is join'd backward to the top of the *Epiphyſis* of the *Tibia.* Theſe three Muſcles are plac'd in the back-part of the Thigh below the Buttocks.

The *Semi-membranoſus* ariſes tendinous from the Protuberance of the *Iſchion*, immediately below the former, and is inſerted by a large Tendon into the upper and back-part of the *Tibia.*

The four *Extenſors* of the Leg are the *Rectus*, the *Vaſtus Internus*, the *Vaſtus Externus*, and the *Crureus.*

The *Rectus*, or ſtrait Muſcle of the Leg, takes its riſe from the Fore-part and the Bottom of the *Ilion*, and deſcends in a right Line: it covers with its *Tendon*, which is common to the three following, the whole Knee-Pan, and adheres to the top of the *Tibia*, on the Fore-part.

The

The *Vaſtus Internus*, being ſituated on the inſide of the Thigh, hath its beginning on the top of the Thigh inwardly, and a little below the leſſer *Trochanter* or *Rotator*: afterward it is ty'd to the *Tibia* by a large *Tendon*, common thereto with the preceding.

The *Vaſtus Externus* is plac'd on the outſide of the Thigh, ſpringing from the Top and the Fore-part of the *Femur*, being united by the ſame *Tendon* with the two preceding.

The *Crureus* proceeds from the Top, and the Fore-part of the Thigh-Bone, between the two *Trochanters*; then covering the whole Bone, it is alſo faſtened to the Leg-Bone with the three preceding Muſcles, after having cover'd the Knee-Pan with their common *Tendon*, which ſerves likewiſe as a Ligament to the Knee.

The two *Adductors* of the Leg are the *Sartorius* and the *Gracilis*.

The *Sartorius*, or the *Longiſſimus*, draws the Leg inward, deriving its Original from the upper *Spine* of the *Iſchion*; from whence it deſcends obliquely thro' the Inſide of the Thigh, and cleaves to the Top on the Inſide of the *Tibia*.

The *Gracilis* hath its Origin in the Fore-part at the Bottom of the *Os Pubis*, and its Inſertion in the Top of the *Tibia* on the Inſide.

The two *Abductors* of the Leg are the *Faſcia lata*, and the *Poplitæus*.

The *Faſcia lata*, or the *Membranoſus*, is as it were a kind of large Band, which covers all the Muſcles of the Thigh. It proceeds from the outward edge of the *Os Ilion*, is ty'd by a large Membrane to the Top of the *Perone* or *Fibula*, and ſometimes deſcends to the end of the Foot.

The *Poplitæus* or *Sub-poplitæus*, ariſes from the lower and external *Condylus* of the Thigh-Bone, paſſing obliquely from the Outſide to the Inſide, till it is loſt in the upper and inner Part of the Leg-Bone under the Ham.

What are the Motions of the Foot, and what are its Muſcles?

The Foot performs two Motions by the help of nine Muſcles, as being bent by two, and extended by ſeven.

The

The two *Flexors* are the *Tibialis Anticus*, and the *Peronæus Anticus*.

The *Tibialis Anticus*, is placed along the *Tibia*, and takes its riſe from its upper and fore-part: afterwards it is bound by two *Tendons* to the *Os Cuneiforme* or Wedge-like Bone, and to that of the *Metatarſus* or Inſtep, which ſtayeth the great Toe, after having paſs'd under the Annular Ligament.

The *Peronæus Anticus* ſprings from the middle and outward Part of the *Perone* or *Fibula*, and inſinuating it ſelf thro' the Cleft which is under the external *Malleolus* before, cleaves to the Bone of the *Metatarſus* that ſupports the little Toe.

The ſeven *Extenſors* of the Foot are the two *Gemelli*, the *Solæus*, the *Plantaris*, the *Tibialis Poſticus*, and the two *Peronæi Poſtici*.

The *Gemelli* are the *Interior* and the *Exterior*; the former having its riſe from the inner *Condylus*, and the other from the outward and lower of the Thigh-Bone; whence they extend themſelves till they are faſtened to the *Talus* or Ancle-Bone, by a *Tendon* common to them, with the two following.

The *Solæus* ariſing from the Top on the back Part of the Leg-bone and the *Perone*, and confounding its *Tendon* with that of the *Gemelli*, cleaves cloſe to the *Talus*.

The *Plantaris*, which lies hid between the *Gemelli* and the *Solæus*, hath its Origin from the *Exterior Condylus* of the Thigh-Bone; then uniting its *Tendon* with the preceding, it adheres to them, and this common *Tendon* is call'd *Chorda Achillis*.

The *Tibialis Poſticus* ſprings from the back Part of the Leg-Bone, from whence extending it ſelf downward, it paſſeth thro' the Fiſſure in the *Internal Malleolus*, and cleaves to the inner Part of the *Os Scaphoides*.

The *Peronæi*, or *Fibulæi Poſtici*, are otherwiſe call'd the *Longus* and the *Brevis*, whereof one proceeds from the upper and almoſt fore Part of the *Perone*, terminating in the upper Part of the Bone that ſupports the great Toe in the *Metatarſus*; and the other from the lower Part of the *Perone*, adhering in like manner to the Bone with which the little Toe is ſuſtain'd.

With

With what Motions are the Toes endu'd, how many Muſcles have they, and which be they?

The Toes are bent and extended, as alſo drawn inward and outward, by the means of twenty two Muſcles, of which ſixteen are Common, and ſix Proper. The Former are two *Flexors*, two *Extenſors*, four *Lumbricales*, and eight *Interoſſæi*. The firſt *Flexor* is nam'd *Sublimis*, and the other *Profundus*.

The *Sublimis*, or *Perforatus*, derives its Original from the lower and inner Part of the *Os Calcis*, and is fix'd in its proper Place by four diſtinct *Tendons*, which are inſerted in the upper Part of the Bones of the firſt *Phalanx* of the four Toes. It is ſituated under the Sole of the Feet.

The *Profundus*, or *Perforans*, hath its beginning in the top and back Part of the Leg-bone and *Perone*, ſlips under the *Malleolus Internus* thro' the *Sinus Calcaris*, and makes four *Tendons*, which paſs thro' the Fiſſures of the *Tendon* of the *Sublimis*, and cleave to the Bones of the laſt *Phalanx* of the Toes to bow them.

The firſt *Extenſor* is call'd the *Common*, and the other *Pediæus*.

The *Common Extenſor* or the *Longus*, takes its Riſe from the top and fore-part of the *Tibia*, and in the Place of its joyning with the *Perone* or *Fibula*, divides it ſelf into four *Tendons*, which after having paſs'd under the Annular Ligament, are inſerted in the Articulation of every Toe.

The *Pediæus* or the *Brevis*, being plac'd over the Foot, proceeds from the Annular Ligament, and the lower Part of the *Perone*, and ſends forth four *Tendons*, which are fixt to the firſt Articulation of the four Toes on the Outſide. Thus this Muſcle, together with the *Longus*, cauſeth their Extenſion.

The four *Lumbrical* Muſcles of the Toes ariſe from the *Tendons* of the *Profundus*, and from a Maſs of Fleſh at the Sole of the Feet. They are join'd by their *Tendons* with thoſe of the *Interoſſæi Interni*, and adhere inwardly to the Side of the firſt Bones of the four Toes, to incline them toward the great Toe.

The *Abductors*, or thoſe Muſcles that remove the Toes from the great Toe, are the eight *Interoſſæi*; whereof four are call'd *Externi*, and as many *Interni*. The former

mer take their riſe in the Spaces between the Bones of the *Metatarſus*, and are terminated outwardly in the Side of the firſt Bones of the Toes. The Internal lie in the bottom of the Foot, and take up the Spaces between the five Bones of the *Metatarſus*. They ariſe from the Bones of the *Tarſus*, and the Intervals betwen thoſe of the *Metatarſus*, and are implanted with the four *Lumbricales* inwardly, in the upper Part of the Bones of the firſt *Phalanx* of the four Toes.

Of the ſix proper Muſcles of the Toes, there are four appointed for the great Toe, which cauſe it to perform the Motions of Flexion, Extenſion, and which draw it forward and backward. The two others are the *Adductor* of the ſecond Toe to the great Toe, and the *Abductor* of the little Toe call'd *Hypotenar*.

The Proper *Flexor* of the great Toe, ariſing from the top of the *Perone* or *Fibula*, on the back Part, paſſeth thro' the Ankle-bone on the Inſide, to the Sole of the Foot, and is faſtened to the Bone of the laſt *Phalanx*.

The Proper *Extenſor* of the great Toe ſprings from the Middle of the Fore-part of the *Perone*, paſſeth over the Foot, and hath its Inſertion in the upper Part of the Bone of the great Toe.

The Proper *Adductor* of the great Toe, or the *Tenar*, taking its riſe inwardly on the Side of the *Os Calcis*, the *Oſſa Scaphoidæa* and *Innominata*, extends it ſelf over the outward Part of the Bone of the *Metatarſus*, which ſtayeth the great Toe, and adheres to the Top of the ſecond Bone of the great Toe, which it draws inward.

The Proper *Abductor* of the great Toe, or the *Antitenar*, draws it toward the other Toes. It derives its Origin from the Bone of the *Metatarſus*, which ſupports the little Toe, ſlides obliquely over the other Bones, and cleaves to the firſt Bone of the great Toe on the Inſide.

The *Adductor* appropriated to the ſecond Toe, hath its riſe from the firſt Bone of the great Toe, on the Inſide, and ſticks cloſe to the Bones of the ſecond Toe, which it draws to the great Toe.

The *Abductor* of the little Toe, or the *Hypotenar*, proceeds from the outward Part of the Bone of the *Metatarſus*, that ſtayeth the little Toe, and is inſerted in the top of the little Toe, on the Outſide, to remove it from the others.

A List of all the Muscles in the Humane Body.

The Forehead hath two Muscles.	2
The hinder Part of the Head	2
The Eye-lids	4
The Eyes	12
The Nose	7
The Ears on the Outside	8
The Ears on the Inside	6
The Lips	13
The Tongue	8
The *Uvula*	4
The *Larynx*	13
The *Pharynx*	7
The *Os Hyoides*	10
The Lower-Jaw	12
The Head	14
The Neck	8
The *Scapulæ* or Shoulder-baldes	8
The Arms	18
The Cubits	12
The *Radii*	8
The Wrists	12
The Fingers	46
The Breast, or the Parts of Respiration	57
The Loins	6
The *Abdomen* or lower Belly	10
The Testicles	2
The Bladder	1
The *Penis*	4
The *Clitoris*	4
The *Anus*	3
The Thighs	28
The Legs	22
The Feet	18
The Toes	44
Total	423

CHAP.

CHAP. XIII.

Of the Anatomy of the Nerves, Arteries, and Veins in general.

WHAT is the Structure of the Nerves?

The Nerves are round white Bodies, inclos'd in a double Membrane, communicated to them from the two *Meninges* of the Brain: their Office is to convey the Animal Spirits into all the Parts.

Where is the Root and first Beginning of all the Nerves?

All the Nerves take their Original from the *Medulla Oblongata*, and that of the Spine.

How is the Distribution of them made through the whole Body?

It is directly perform'd by Conjugations or Pairs, whereof one goes to the Right-hand, and the other to the Left. There are nine Pair of them that proceed from the *Medulla Oblongata*, and enter into the Skull; and a tenth that comes from the Marrow which lies between the Occipital and the first *Vertebra* of the Neck. This passeth thro' the Hole of the *Dura Mater*, thro' which the Vertebral Artery enters, to distribute its Branches into several Parts.

To what Use are the nine Pairs of Nerves appropriated, which proceed from the Root of the Brain?

They are chiefly design'd for the Senses, and also for the Motion of their Organs: the generality of the Antients discover'd only seven of them.

The first Pair of Nerves is call'd the *Olfactory*, and serves for the Smelling.

The second Pair is of the Optick or Visual Nerves, which serve for the Sight.

The third is term'd *Motorii Oculorum*, being serviceable for the Motion of the Eyes.

The fourth Pair is nam'd *Oculorum Pathetici*, which shews the Passion of the Mind in the Eyes, whereto it imparts some Fibres as well as to the Lips.

The

The fifth is call'd the *Gustative*, and appropriated to the Taste, because it sends some branches more especially to the Tongue, as also to the Fore-head, Temples, Face, Nostrils, Teeth, Privy-Parts, *&c.*

The sixth is likewise for the Taste, and goes to the Palate.

The seventh is the *Auditive* Pair, that enters into the *Os Petrosum*, where it divides it self into many Branches, which when gone forth, are distributed to the Muscles of the Tongue, Lips, Mouth, Face, Fore-head, Eye-lids, *&c.*

The eighth is the *Par Vagum*, or wandring Pair, which is united to the Intercostal Nerve, as also to the Recurrent, Diaphragmatick, Mesenterick, *&c.*

The ninth Pair, after having form'd a Trunk with the eighth, disperseth its Twigs several Ways, whereof one is join'd with a Twig of the Tenth, to be distributed together into the Muscle *Sternohyoidæus*, and into the Tongue.

The *Intercostal* and *Spinal* are not Pairs of Nerves, but properly only Branches or Twigs of other Pairs.

What is the Distribution and Use of the thirty Pair of Nerves that proceed from the Spinal Marrow?

There are seven that go forth from the seven *Vertebræ* of the Neck, twelve from those of the Back, five from the Loins, and six from the *Os Sacrum*, according to the following Progression.

The first of the seven Pair of the Nerves of the Neck proceeds from between the Occipital Bone and the first *Vertebra*, nam'd *Atlas*, its Fibres being lost in the Muscles of the hinder Part of the Head and Neck.

The second Pair springs from between the first and second *Vertebræ* of the Neck; the Fibres whereof are lost in the Muscles of the Head, and in the Skin of the Face.

The third Pair issueth from between the second and third *Vertebræ* of the Neck; and its Fibres are lost in the Flexor Muscles and the Extensors of the Neck.

The fourth, fifth, sixth, and seventh Pairs proceed from between the *Vertebræ*, as before, but their Fibres are lost in the Neck of the *Omoplata*, in the Arms, and in the *Diaphragm* or Midriff. Here it ought to be observ'd by the way, that the Arms receive Branches not only from the

four laſt Pair of the Nerves of the Neck, but alſo from the two firſt Pair of the Back, which are extended even to the end of the Fingers: Whence it happens that in the Palſie of the Arms, Remedies are uſually apply'd to the *Vertebræ* of the Neck; and that in Phlebotomy, or letting Blood, Care muſt be taken to avoid pricking the Nerve which accompanies the Baſilick Vein in the Cubit.

The twelve Pair of Nerves that have their beginning from between the *Vertebræ* of the Back, are each of them divided into two Branches, as the others; and their Branches are diſtributed in like manner to the Muſcles of the Breaſt, and to thoſe of the Back and *Abdomen.*

The five Pair which take their riſe from between the *Vertebræ* of the Loins, have thicker Branches than the others; and the diſtribution of them is made to the Muſcle of the Loins, to the *Hypogaſtrium*, and the Thighs.

Of the ſix Pair of Nerves that proceed from the *Os Sacrum*, the four Upper, with the three Lower of the Loins, ſend forth Fibres to the Thigh, Leg, and Foot; and the two laſt Pair impart Nerves to the *Anus*, Bladder, and Privy-Parts.

What is the Structure of the Arteries?

The Arteries are long and round Canals, conſiſting of four Sorts of Tunicks or Membranes, which have their riſe from the left Ventricle of the Heart, from whence they receive the Blood, and convey it to all the Parts of the Body for their Nouriſhment.

What is the Conſtruction of theſe four Tunicks or Membranes of the Arteries?

The firſt being thin and nervous in its outward Superficies, is in the inſide a *Plexus* or Net-work of ſmall Veins and Arteries, and Fibres of Nerves, which enter into the other following Tunicks to nouriſh them.

The ſecond, ſticking cloſe to the former, is altogether full of whitiſh Glandules, that ſerve to ſeparate the ſerous Particles of the Blood.

The third is intirely Muſculous, and interwoven with Annular Fibres.

The fourth is very thin, and hath its Fibres all ſtrait.

Whence

Whence proceed the Pulse or beating of the Arteries?

It is deriv'd from the Heart, and exactly answers to it Motion of *Diastole* and *Systole*.

By what Name is the first Trunk of the Arteries call'd, and what is the Effect of the Distribution made thence to the whole Body?

The first Trunk of the Arteries is nam'd *Aorta*, or the *thick Artery*, which proceeds immediately from the left Ventricle of the Heart, whereto it communicates, before its departure from the *Pericardium*, one or two small Branches call'd the *Coronaries*: afterward it is divided into two Branches, whereof one goes upward, and is term'd the *Ascending Artery*; and the other downward, under the Denomination of the *Descending Artery*.

The *Ascending Artery* ariseth upward along the *Aspera Arteria* or Wind-Pipe, to the Clavicles, and is there divided into two Branches, call'd the *Subclavian Arteries*, one whereof goes forward to the Right-side, and the other to the Left; and they both send forth on each Side divers Branches, which take their Names from the several Parts whereto they are distributed; such are the *Carotides* or *Soporales Interni & Externi*, which pass to the Head, the *Mediastina*, the *Intercostal*, the *Axillar*, and others.

The *Descending Artery*, before its departure from the Breast, affords certain Branches to the *Pericardium*, Diaphragm, and lower Ribs; afterward it penetrates the Diaphragm, and constitutes seven double Branches. The first is of those that are call'd *Cæliack*, and which go to the Liver and Spleen: The second Branch contains the *Upper Mesenterick*: The third the *Emulgent*, which pass to the Reins: The fourth the *Spermatick*, which are extended to the Genitals: The fifth the *Lower Mesenterick*: The sixth the *Lumbar*: And the seventh the *Muscular*. But as soon as the great Trunk is come downward to the *Os Sacrum*, it divides it self into two thick Arteries nam'd the *Iliack*, which are distributed on both Sides, each of them making two internal and external Branches, which likewise impart Sprigs or lesser Arteries to the Bladder, *Anus*, *Matrix*, and other adjacent Parts: Then the Master-branch forms the *Crural* Arteries on the Inside of the Thighs, which are communicated by

multiplying their Number even to the ends of the Toes, in passing over the external Ankle-bone of the Feet.

What is the Structure of the Veins?

The Veins are long and round Canals made of four kinds of Tunicks or Membranes, whose Office it is to receive the Blood that remains after the Nourishment is taken, and to carry it back to the Heart to be reviv'd.

What is the Form of the four Tunicks that make the Canals of the Veins?

The first is a Contexture of Nervous and strait Fibres. The second is a *Plexus* of small Vessels that carry the Nourishment. The third is all over beset with Glandules thro' which are filtrated the serous Particles of the Blood contain'd in the Vessels of the second Tunicle. The fourth is a Series of Annular and Musculous or Fleshy Fibres.

Which are the most Numerous, the Arteries or the Veins?

The Number of the Veins exceeds that of the Arteries; and there are scarce any Arteries without Veins accompanying them.

Where is the Beginning and Original of all the Veins?

All the Veins have their Root in the Liver: and the three great Trunks that proceed from thence are call'd the *Vena Porta*, and the *Vena Cava*, *ascending* and *descending*.

The *Vena Porta* is distributed to all the Parts contain'd in the lower Belly, and terminated in the Fundament; where it makes the Internal Hæmorrhoidal Veins.

The *Vena Cava* is immediately divided into two thick Branches, one whereof ariseth upward to the right Ventricle of the Heart, and forms the *ascending Vena Cava*; as the other goes downward to the Feet, and constitutes the *descending*.

What is the Distribution of the ascending Vena Cava?

It perforates the Diaphragm, goes to the Heart, and ascends from thence to the Clavicles, after having communicated to the Midriff, in passing, a small Branch call'd the *Phrenicus*; as also one or two to the Heart, nam'd the *Coronaries*, and some others to the upper Ribs, besides

ſides the ſingle Branch, term'd *Azygos*, only on the Right ſide. But the Trunk of the *aſcending Vena Cava*, being once come up to the Clavicles, is divided into two Branches, well known by the Name of the *Subclavian*, one whereof ſhoots forth toward the Right-ſide, and the other toward the Left; and they both make various Ramifications like to thoſe of the thick aſcending Artery, by producing the *Cervicales* or *Soporales*, and the Internal and External *Jugulars* that go to the Head; as alſo the *Axillars*, which paſs to the Arms and Shoulders, forming the *Cephalick*, the *Median*, and the *Baſilick* on the Inſide of the Cubit.

The *deſcending Vena Cava* in like manner accompanieth the Ramifications of the *Aorta*, or thick deſcending Artery, to the fourth *Vertebra* of the Loins, where it ſends forth two Branches, nam'd the *Iliack*, one whereof goes to the Right-ſide, and the other to the Left, both inwardly and outwardly; imparting divers Twigs or leſſer Branches to all the Parts contain'd in the *Abdomen* or lower Belly, ev'n as far as the Fundament, where it makes the external *Hæmorrhoidal* Veins. Afterward the outward Branch of the *Iliack* deſcends within the Thigh, to form the *Crural*, and others, as far as the *Saphæna*, and thoſe that are at the end of the Feet.

CHAP. XIV.

Of the Anatomy of the Abdomen, *or lower Belly.*

WHAT is the cleareſt Diviſion of the Humane Body into various Parts, and that which is moſt followed in the Anatomical Schools?

It is that which conſtitutes three *Cavities*, that is to ſay, the Upper, the Middle, and the Lower, which are the Head, the *Thorax* or Breaſt, the *Abdomen* or lower Belly, and the Extremities, which are the Arms and Legs.

What is the lower Belly?

It is a Cavity of the Body that contains the Organs of Nutrition, as the Reins, the Bladder, and all thoſe that are appropriated to Generation in both Sexes.

What is to be conſider'd outwardly in the lower Belly?

Its different Regions, and the ſeveral Parts therein contain'd.

What are thoſe Regions?

They are the *Epigaſtrick*, the *Umbilical*, and the *Hypogaſtrick*.

What is their Extent?

It is from the *Xiphoides* or Sword-like Cartilage to the *Os Pubis*, the diviſion whereof into three equal Parts, conſtitutes the three different Regions; the *Epigaſtrium* being the firſt upward, the *Umbilical* the ſecond, and the *Hypogaſtrium* the third.

What are the Parts contain'd in the Epigaſtrium, *and what Place do they poſſeſs therein?*

The Parts contain'd in the *Epigaſtrium* are the Liver, the Spleen, the Stomach, and the *Pancreas* or Sweet-bread, which lies underneath: The Stomach takes up the Middle before, the Liver being plac'd on the Right-ſide for the greater part, and the Spleen on the Left; and theſe two Sides of the Epigaſtrick Region, are call'd the Right and Left *Hypochondria*.

What Parts are there contain'd in the Umbilical Region, and what is their Situation?

They are the moſt Part of the thin Inteſtines or ſmall Guts, *viz.* the *Duodenum*, the *Jejunum*, and the *Ileon*, which have their Reſidence in the Middle, where they are incircled with a Portion of the two great Guts, *Cæcum* and *Colon*, that take up the Sides, otherwiſe call'd the Flanks. The Reins or Kidneys are alſo in this Place, above, and ſomewhat backward.

What Parts are there contain'd in the Hypogaſtrium, *and of what Place are they poſſeſt?*

The greater Part of the great Guts, *Cæcum* and *Colon*, is inclos'd therein, with the intire *Rectum*: there is alſo a Portion of the *Ileon*, which hides it ſelf in the Sides of the *Ilia* or Hip-bones: In the middle under the *Os Pubis*, the Bladder is ſituated on the Gut *Rectum* in Men, and the Womb in Women lies between the *Rectum* and the Bladder.

After

After what manner is the opening of a Corps or dead Body perform'd at a publick Diſſection?

It is begun with a Crucial Inciſion in the Skin from underneath the Throat downward, traverſing from one ſide to another in the Umbilical Region; then the Skin is rais'd, beginning at the four Corners, and the *Panniculus Adipoſus* is immediately diſcover'd: Under this Fat lies a fleſhy Membrane, call'd *Membrana Carnoſa*; and under that, the common Membrane of all the Muſcles of the lower Belly. Thus we have taken a View of what Anatomiſts commonly term the *five Teguments*, that is to ſay, the *Epiderma* or Scarf-Skin, the *Derma* or true Skin, the *Panniculus Adipoſus*, the *Panniculus Carnoſus* or *Membrana Carnoſa*, and the common Membrane of the Muſcles.

The five Teguments being removed, we meet with as many Muſcles on each ſide, *viz.* the deſcending Oblique, the aſcending Oblique, the Tranſverſe, the Strait, and the Pyramidal, by the means whereof the Belly is extended and contracted. Afterwards appears a Membrane nam'd *Peritonæum*, which contains all the Guts, and covers the whole lower Belly, being ſtrongly faſtened to the firſt and third *Vertebræ* of the Back. The Fat skinny Net which lies immediately under the *Peritonæum*, is call'd *Epiploon* and *Omentum* or the Caul; it floats over the Bowels, keeping them in a continual Suppleneſs neceſſary for their Functions; maintains the Heat of the Stomach, and contributes to Digeſtion.

It remains to take an Account of the Stomach, Meſentery, Liver, Spleen, Kidneys, Bladder, and Guts, together with the Parts appointed for Generation, which in Men are the Spermatick Veſſels, the Teſticles, and the *Penis*; and in Women, the Spermatick Veſſels, the Teſticles or Ovaries, the Womb, and its *Vagina* or Neck.

What is the Stomach?

It is the Receptacle of the Aliments or Food convey'd thither thro' the *Oeſophagus* or Gullet, which is a Canal, or kind of ſtrait Gut that reacheth from the Throat to the Mouth of the Stomach. The Stomach it ſelf is ſituated immediately under the *Diaphragm* or Midriff, between the Liver and the Spleen, having two Orifices,

whereof the Left is properly call'd *Stomachus*, or the Upper, and the Right (as its other Extremity) *Pylorus*, or the lower Orifice. Its Figure reſembleth that of a Bag-pipe, and the greater Part of its Body lies toward the Left-ſide. It is compos'd of three Membranes, *viz.* one Common, which it receives from the *Peritonæum*, and two Proper; the two uppermoſt being ſmooth, and the innermoſt altogether wrinkled.

What is the Pancreas *or Sweet-bread?*

It is a Fat Body, conſiſting of many Glandules wrapt up in the ſame Tunicle, being ſituated under the *Pylorus* or lower Orifice of the Stomach. It helps Digeſtion, and hath divers other Uſes; but its principal Office is to ſeparate the ſerous Particles of the Blood, to be convey'd afterward into the Gut *Duodenum*, by a Canal or Paſſage, nam'd the *Pancreatick*. This Juice ſerves to cauſe the Chyle to ferment with the Choler, in order to ſeparate the groſſer Particles from thoſe that ought to enter into the Lacteal Veſſels.

Into how many Sorts are the Guts diſtinguiſh'd?

There are two Sorts, *viz.* the Thin and the Thick.

How many thin or ſmall Guts are there?

Three; that is to ſay, the *Duodenum*, the *Jejunum*, and the *Ilion*.

How many thick Guts are there?

Three likewiſe; *viz.* the *Cœcum*, the *Colon*, and the *Rectum*.

Why are ſome of them call'd thin Guts, and others thick?

Becauſe the thin are ſmaller, being appointed only to tranſport the Chyle out of the Stomach into the Ciſtern or Receptacle; whereas the thick are more large and ſtronger, ſerving to carry forth the groſs Excrements out of the Belly.

Are the ſix Guts of an equal Length?

No, the *Duodenum*, which is the firſt of the thin Guts, is only twelve Fingers breadth long: The *Jejunum*, being the ſecond, ſo call'd becauſe always empty, is five Foot long. The third is nam'd *Ileon*, by reaſon of its great Turnings, which oblige it to paſs to the *Os Ilion*, where it ſometimes produceth a Rupture: it extends it ſelf almoſt twenty Foot in length.

The

The firſt of the thick Guts, known by the Name of *Cæcum*, is very ſhort, and properly only an *Appendix* or Bag of a Finger's length: That which follows is the *Colon*, being the largeſt of all, and full of little Cells, which are fill'd ſometimes with Wind and other Matters, that excite the Pains of the Cholick. It encompaſſeth the thin Guts, in paſſing from the top to the bottom of the Belly, by the means of its great Circumvolutions; and is from eight to nine Foot long. The laſt is the *Rectum* or ſtrait Gut, ſo nam'd becauſe it goes directly to the Fundament: It is no longer than ones Hand, but it is fleſhy, and ſituated upon the *Os Sacrum*, and the *Coccyx* or Rump-bone.

What is the Periſtaltick *Motion of the Guts?*

It is the ſucceſſive Motion and Undulation, whereby the Guts inſenſibly puſh forward, from the top to the bottom, the Matters contain'd in them; and that Motion which on the contrary is perform'd from the bottom to the top, is term'd the *Antiperiſtaltick*, as it happens in the *Iliack* Paſſion or twiſting of the Guts, call'd *Domine, Miſerere*, by reaſon of its intolerable Pain.

What is the Meſentery?

It is a kind of Membrane ſomewhat fleſhy, which is join'd to the Spine in the bottom and middle of the Belly, and by its folding keeps all the Guts ſteady in their Place; it is all over beſet with Red, White, and Lymphatick Veſſels; that is to ſay, thoſe that carry the Blood, Chyle, and *Lympha*, which ſerves to cauſe this laſt to run more freely, and to ferment. Three notable Glandules are alſo obſerv'd therein, the greateſt whereof lies in the middle, and is nam'd *Aſellius's Pancreas*; the two other leſſer are call'd *Lumbar* Glandules, as being ſituated near the left Kidney. From each of theſe Glandules proceeds a ſmall Branch; and both are united together to make the great *Lacteal* Vein, or *Thoracick* Canal. This Tube conveys the Chyle along the *Vertebræ* of the Back to the Left *Subclavian* Vein; from whence it paſſeth into the aſcending *Vena Cava*, and deſcends into the Right Ventricle of the Heart, where it aſſumes the form of Blood; from whence it paſſes to the Lungs thro' the *Pulmonary* Artery; then it returns to the Heart thro' the *Pulmonary* Vein, and goes forth again thro' the Left Ventricle of the Heart,

Heart, into the *Aorta* or great Artery, to be afterward diſtributed to all the Parts of the Body. Thus is the Chyle diſcharg'd into the Blood, and circulates with it, till it is aſſimilated and converted into its Subſtance.

What is the Liver?

The Liver, being the thickeſt of all the Bowels, is plac'd in the *Hypochrondrium*, at the Diſtance only of a Fingers breadth from the Diaphragm; its Figure much reſembling that of a large Neats-foot: It is Convex on the ouſide, and Concave within; its Subſtance is ſoft and tender, its Colour and Conſiſtence being like coagulated Blood. It is cleft at Bottom, and divided into two Lobes, *viz.* one greater, and the other leſs. Its Office is to purifie the Maſs of Blood by Filtration; and it is bound by two ſtrong Ligaments, the firſt whereof adheres to the Diaphragm, and the ſecond to the *Xiphoides* or Sword-like Cartilage. Two great Veins take their riſe from hence, the *Vena Porta*, and the *Vena Cava*, which form innumerable Branches, as it were Roots, in the Body of the Liver. The Gall-bladder is faſtned to the hollow Part thereof, and diſchargeth its Choler into the Gut *Duodenum*, thro' the Veſſels that bear the name of *Meatus Choledochi*, or *Ductus Biliares*. This Choler is not a meer Excrement, but on the contrary of ſingular Uſe in cauſing the Fermentation of the Chyle, and bringing it to perfection.

What is the Spleen?

The Spleen is a Bowel reſembling a Hart's-Tongue in ſhape, and ſituated in the Left *Hypochondrium*, over-againſt the Liver: Its length is about half a Foot, and its breadth equal to that of three Fingers; its Subſtance being flabby, as that of the Liver, and its Colour like coagulated Blood. It is faſtened to the *Peritonæum*, Left-Kidney, Diaphragm, and to the Caul on the Inſide; as alſo to the Stomach by certain Veins, call'd *Vaſa Brevia*: nevertheleſs theſe Ligatures do not hinder it from ſhifting here and there in the lower Belly, where it often changeth its Place, and cauſeth many dreadful Symptoms by its irregular Motions. Its Office is to ſubtilize the Blood by cleanſing and refining it.

What are the Reins?

The

The Reins or Kidneys are Parts of a fleſhy Conſiſtence, harder and more firm than that of the Liver and Spleen. They are two in number, ſituated in the Sides of the Umbilical Region, upon the Muſcle *Pſoas*, between the Tunicks of the *Peritonæum*; but the Right is lower than the Left; and their Shape reſembleth that of a *French*-Bean. They receive Nerves from the Stomach, whence Vomitings are frequently occaſion'd in Nephritick Cholicks. They are faſtened to the Midriff, Loins, and *Aorta*, by the *Emulgent* Arteries, as alſo to the Bladder by the *Ureters*. The Right Kidney likewiſe adheres to the Gut *Cæcum*, and the Left to the *Colon*. Their Office is to filtrate or ſtrain the Urine into the *Pelves* or Baſins, which they have in the middle of their Body, and to cauſe it to run thro' the Veſſels call'd *Ureters* into the Bladder.

Immediately above the Reins, on each Side is a flat and ſoft Glandule, of the thickneſs of a Nut; they are nam'd *Renal Glandules*, or *Capſulæ Atrabilariæ*, becauſe they contain a blackiſh Liquor, which, as ſome think, ſerves as it were Leven for the Blood, to ſet it a fermenting.

What is the Bladder?

It is a Baſin or Reſerver of Urine, of a Membranous Subſtance, as the Stomach, being plac'd in the middle of the Hypogaſtrick Region; and guarded by the *Os Sacrum* behind, and by the *Os Pubis* before. Two Parts are to be diſtinguiſh'd therein, *viz.* its Bottom, and Top: by its Membranous Bottom it is join'd to the Navel, and ſuſpended by the means of the *Urachus*, and the two Umbilical Arteries which degenerate into Ligaments in adult Perſons; and by its fleſhy Neck, longer and crooked in Men, and ſhorter and ſtrait in Women, it cleaves to the *Inteſtinum Rectum* in the former, and to the Neck of the Womb in the latter. Laſtly, its Office is to receive the Urine, to keep it, and to diſcharge it from time to time.

What are the Genitals in Men?

They are the Spermatick Veſſels, the Teſticles, and the *Penis*. The Spermatick Veſſels are a Vein and an Artery on each ſide; the former proceeding from the *Aorta*, or thick Artery of the Heart; and the other from the Branches of the *Vena Cava* of the Liver.

Theſe

These Arteries and Veins are terminated in the Body of the Testicles, which are two in Number, inclos'd within the *Scrotum.*

The Office of the Testicles is to filtrate the Seed, which is brought thither from all the Parts of the Body, thro' the Spermatick Vessels, call'd *Præparantia*, and afterwards to cause it to pass thro' others nam'd *Deferentia*, to the *Vesiculæ Seminales*, from whence it is forc'd into the *Ureters* thro' two small and very short Canals.

The *Penis* or Yard, is a Nervous and Membranous Part, well furnish'd with Veins and Arteries, containing in the middle the Canal of the *Urethra.* Its Extremity, which consists of a very delicate and spongy sort of Flesh, is call'd *Balanus*, the *Glans*, and the Nut; the Skin that covers it being nam'd the *Præputium*, or the Fore-Skin. Thus by the means of this swelled and stiffened Part, thro' the affluence of the Spirits, the Male injects his Seed into the Womb of the Female, to propagate his Kind.

What are the Parts appropriated to Generation in Women?

They are the Spermatick Vessels, the Ovaries or Testicles, and the Womb. The Spermatick Vessels are a Vein and an Artery on each Side, as in Men. The Ovaries or Testicles, situated on the side of the bottom of the Womb, are almost of the same Bigness with those of Men, but of a round and flat Figure. The *Vesiculæ*, or little Bladders which they contain, are usually term'd *Ova* or Eggs, by Modern Anatomists; and the Vessels that pass from these Testicles or Ovaries to the *Cornua* of the *Uterus*, are call'd *Deferentia* or *Ejaculatoria.*

The *Matrix*, *Uterus*, or Womb, is the principal Organ of Generation, and the Place where it is perform'd, resembling the Figure of a Pear with its Head upward, and being situated between the Gut *Rectum* and the Bladder. It is of a fleshy and membranous Substance, retain'd in its place by four Ligaments, fastened to its Bottom; whereof the two upper are broad ones, proceeding from the Loins, and the two lower round, taking their rise from the Groin, where they form a kind of Goose-Foot, which is extended to the *Os Pubis*, and

and the flat Part of the Thighs; which is the cause that Women are in danger of Miscarrying, when they fall upon their Knees.

The exteriour Neck of the Womb, call'd *Vagina*, is made almost in form of a Throat or Gullet, extending it self outwardly to the Sides of the Lips of the *Pudendum*, and being terminated inwardly at the internal Orifice of the Womb, the Shape whereof resembles that of the Muzzle or Nose of a Puppy. The outward Neck of the Womb is fastned to the Bladder and the *Os Pubis* before, and in the hinder Part to the *Os Sacrum*. Between the Lips of the *Pudendum* lie the *Nymphæ*, which are plac'd at the Extremity of the Canal of the Bladder, to convey the Urine; and somewhat farther appear four Caruncles, or small pieces of Flesh, at the Entrance of the *Vagina*, which when join'd together make the thin Membrane called *Hymen*.

CHAP. XV.

Of the Anatomy of the Thorax, *Breast, or middle* Cavity.

WHAT is the Breast?

It is a Cavity in which the Heart and the Lungs are principally inclos'd.

What is to be consider'd outwardly in the Breast?

Its Extent, and the Situation of the Parts therein contain'd.

What is its Extent?

It is extended from the *Clavicles* to the *Xiphoides* or Sword-like Cartilage on the Fore-part, and bounded on the Hinder by the twelfth *Vertebra* of the Back, having all the Ribs to form its Circumference, and the Diaphragm for its Bounds at bottom, separating it from the *Abdomen* or lower Belly.

What is the Situation of the Parts contain'd in the Breast?

The

The Lungs take up the upper Region, and fill almoſt the whole Space, deſcending at the diſtance of two Fingers breadth from the Diaphragm; the Heart is ſituated in the middle, bearing its Point ſomewhat towards the Left-ſide, under the Lobes of the Lungs, which are divided by the *Mediaſtinum* that diſtinguiſhes them into the right and left Parts.

How is the Breaſt Anatomiz'd or open'd?

After the Diſſection of the five Teguments, and the removal of the Muſcles, as in the lower Belly, the Anatomiſt proceeds to lift up the *Sternum* or Breaſt-bone, by ſeparating it from the Ribs; then it is laid upon the Face, or elſe intirely taken away, to the end that the internal Parts of the Breaſt may be more clearly diſcover'd; whereupon immediately appear the Heart, the Lungs, the Diaphragm, and the *Mediaſtinum*, which ſticks to the *Sternum* throughtout its whole Length.

What is the Heart?

It is a hollow Muſcle, which receives the blood from the Veins, and throws it out by the Arteries into all the parts of the Body. In this Organ is placed the Fountain of Life, and the firſt Original of the Motion of all the other parts; on which account it is call'd *Primum vivens, & ultimum moriens*, that is to ſay, the firſt Member that begins to live, and the laſt that dies.

What parts are to be conſider'd in the Heart?

Its fleſhy Subſtance, with all its Fibres turn'd round like the Skrews of a Vice, its *Baſis*, Point, Auricles, Ventricles, large Veſſels, *Pericardium*, and Ligatures. The *Baſis* is the uppermoſt and broadeſt Part; the Point is the lowermoſt and narroweſt Part; the two Auricles or ſmall Ears, being as it were little Ciſterns or Receptacles, that pour the Blood by degrees into the Heart, are ſituated on each Side above the Ventricles. The Ventricles, which are likewiſe two in Number, are certain Cavities at its Right and Left Sides. The large Veſſels are the *Aorta* or great Artery, and the *Vena Cava*, together with the Pulmonary Artery and Vein. The *Pericardium* is a kind of Bag fill'd with Water, wherein the Heart is kept; which is faſtened to the *Mediaſtinum* by its *Baſis*, and to the large Veſſels that enter

enter and go out of its Ventricles.

What are the Terms appropriated to the continual beating of the Heart?

They are *Diaſtole* and *Syſtole*, which are two ſeveral Motions, the firſt whereof is that of Dilatation, and the other of Contraction, communicated to all the Arteries which have the ſame Pulſe.

To what Uſe ſerves the Water contain'd in the Pericardium?

It prevents the drying of the Heart by its perpetual Motion.

What are the Lungs?

They are an Organ ſerving for Reſpiration, of a ſoft Subſtance, and porous as a Sponge, being all over repleniſh'd with Arteries, Veins, Nerves, and Lymphatick Veſſels, and perforated with ſmall Cartilaginous Tubes, that are imparted to it from the Wind-Pipe, and are call'd *Bronchiæ*. Their natural Colour is a pale red, and marbled dark Brown; and their whole Body is wrapt up in a fine ſmooth Membrane, which they receive from the *Pleura*. They are ſuſpended by the Wind-Pipe, by their proper Artery and Vein, and by the Ligatures that faſten them to the *Sternum*, *Mediaſtinum*, and frequently to the *Pleura* it ſelf. They are alſo divided into the Right and Left Parts by the *Mediaſtinum*; having four or five Lobes, whereof thoſe on the Left-ſide cover the Heart. Their continual Motion conſiſts in *Inſpiration*, to take in the Air, and *Expiration*, to drive it out. The *Larynx* makes the Entrance of the Wind-Pipe into the Lungs; and the *Pharynx* that of the *Oeſophagus* or Gullet, at the bottom of the Mouth, to paſs into the Stomach.

CHAP.

CHAP. XVI.

Of the Anatomy of the Head or Upper Cavity.

***WHAT** is the Head?*

It is a bony Part, that contains and incloſeth the Brain within its Cavity.

What is moſt remarkable in the outer Parts of the Head?

The Temporal Arteries, the *Crotaphitæ* or Temporal Muſcles, and the Sutures of the Skull.

Why are theſe Things conſiderable?

The Temporal Arteries are of good Note, becauſe they are expos'd on the Outſide, lying cloſe to the Skin. The Temporal Muſcles are ſo likewiſe, in regard that they can't be hurt without danger of Convulſions, by reaſon of the *Pericranium*, with which they are cover'd. And the Sutures, becauſe the *Meninges* of the Brain proceed from thence to form the *Pericranium*.

What is the Pericranium?

It is a large Membrane that lies under the thick hairy Skin of the Head, and immediately covers the Skull.

What are the Meninges?

They are two Membranes that incloſe the Subſtance or Marrow of the Brain.

What is a Suture?

It is a kind of thick Seam or Stitch, that ſerves to unite the Bones of the Skull, by the means of dentings which enter one between another.

How many Sorts of Sutures are there?

There are two Sorts, *viz.* the true, and the falſe or baſtard.

What are the true Sutures?

They are three in Number, namely the *Sagittal*, the *Coronal*, and the *Lambdoidal*.

What is the Diſpoſition or Situation of the true Sutures?

The

The *Sagittal* is ſtrait, beginning in the middle of the Forehead, and ſometimes at the Root of the Noſe, being terminated behind, at the joining of the two Branches of the *Lambdoidal Suture.*

The Coronal appears in form of a Crown, paſſing up to the middle of the Head, to the place called the *Fontanel* or Mould, and deſcending thro' the Temples, to finiſh its Circumference at the Root of the Noſe.

The *Lambdoidal* Suture is made like an open Pair of Compaſſes, the Legs whereof are extended toward the Shoulders; and the Button is in the top of the Head backward.

What are the Baſtard Sutures?

They are thoſe that are call'd *Squamous* or ſcaly.

What is the Diſpoſition or natural Situation of theſe falſe Sutures?

They are placed at the two ſides of the Head, and make a Semi-circle of the bigneſs of the Ears, round them.

What difference is there between the true and ſpurious Sutures?

The true Sutures are made in form of the Teeth of a Saw, which enter one into the other; and the falſe or Baſtard ones are thoſe that reſemble the Scales of Fiſhes, which are join'd together by paſſing one over the other.

What is the Uſe of the Sutures?

The Antients were of Opinion, that they were made to hinder the Fracture of one Skull-Bone from paſſing thro' the whole Head: but there is more reaſon to believe, that they have the four following Uſes, that is to ſay, 1. To promote the tranſpiration of the Brain. 2. To give Paſſage to the Veſſels that go to the *Diploe.* 3. To retain the *Meninges,* and to ſupport the Maſs of the Brain, which is included in them. 4. To fold one over another at the time of Child-birth, to leſſen the bigneſs of the head.

What are the Names of the Bones that compoſe the Skull?

The Bone of the Fore-part of the Head is call'd *Sinciput,* or the Fore-head Bone, as alſo the *Frontal* or *Coronal* Bone. The Bone of the hinder Part, incloſ'd within the *Lambdoidal* Suture, is term'd the *Occipital.* The two Bones that form the upper Part, and are diſtinguiſh'd by the Sagittal Suture, bear the Name of *Parietals,* one being on the Right ſide, and the other on the Left. And thoſe behind the Ears are call'd *Temporal, Squamoſa,* or *Petroſa*

troſa. Theſe alſo are diſtinguiſh'd into the Right and Left Temporals, and are join'd to the bottom of the Parietal by a baſtard ſquamous Suture.

What is moſt remarkable in the thickneſs of the Skull Bones?

The *Diploe*, which is nothing elſe but a *Plexus* or Contexture of ſmall Veſſels that nouriſh the Bones, and make in the middle of their thickneſs the diſtinction of the firſt and ſecond Tablature of the Bones: thence it ſometimes happens, that an exfoliative Trepan or Semi-Trepan is ſufficient, when the firſt of theſe two Tables is only broken, the other remaining intire.

Is the Brain which is preſerv'd in the Skull all of one Piece, or one equal Maſs?

Yes, but it is diſtinguiſh'd by the means of the *Meninges* into the *Cerebrum*, and the *Cerebellum* or little Brain: the *Cerebrum*, or Brain, properly ſo called, takes up almoſt the whole Cavity of the Skull; and the *Cerebellum* is lodg'd altogether in the hinder Part, where it conſtitutes onely one intire Body; whereas the former is divided into the Right and Left Parts by the *Meninges*, which ſeparate it even to the Bottom, whence theſe Foldings are call'd *Falx*, i. e. a *Scythe* or *Sickle*.

What is chiefly remarkable in the Subſtance of the Brain?

The Ventricles or Cavities which are found therein, together with a great Number of Veins, Arteries, Lymphatick Veſſels, and Nerves, that carry Senſe to all the Parts of the Body, and Spirits for their Motion.

An exact Hiſtorical Account of all the Holes of the Skull, and of the Veſſels that paſs thro' them.

To attain to an exact Knowledge of all the Holes with which the Inſide of the *Baſis* of the Skull is perforated, they are to be conſider'd, either with reſpect to the Nerves, or to the Blood-Veſſels.

There are nine Pairs of Nerves that ariſe from the *Medulla Oblongata*, and go forth out of the Skull through many Holes hereafter named.

The

The firſt Pair is that of the *Olfactory* Nerves, appropriated to the Senſe of Smelling, which are divided below the *Os Cribriforme* or Sieve-like Bone, into divers Threads, that paſſing into the Noſe thro' many Holes with which this Bone is pierc'd, are diſtributed to the inner Tunick of the Noſe.

The ſecond Pair is that of the *Optick* or Viſual Nerves, that paſs into the Orbits of the Eyes, thro' certain peculiar Holes made in the *Os Sphænoides* or Wedge-like Bone, immediately above the *Anterior Proceſſus Clinoides.*

In the Portion of the *Os Sphænoides*, that makes the *Baſis* of the Orbit, lies a Fiſſure about ſeven or eight Hairs breadth long, which, at the Bottom, that is to ſay, below the Hole, thro' which the Optick Nerve paſſeth, where it is almoſt round, and larger than at the Top, is terminated in a very long and acute Angle.

There are many Pairs of Nerves that enter into the Orbit thro' this Fiſſure, *viz.* 1. The third Pair, call'd the *Motorii Oculorum.* 2. The fourth Pair, nam'd *Pathetici* by Dr. *Willis.* And 3. The whole ſixth Pair. Beſides theſe three Pairs which go intire thro' this Cleft, there is alſo a Paſſage for the upper Branch of the foremoſt Fibre of the fifth Pair, which the ſame renown'd Phyſician calls the *Ophthalmick* Branch. Beyond the lower Part of the ſaid Fiſſure, toward the hinder Part of the Head, is to be ſeen in the *Os Sphænoides* on each Side, a Hole that doth not penetrate the *Baſis* of the Skull, but makes a kind of *Ductus*, about an Hairs breadth long, which is open'd behind the Orbit, on the top of the Space between the *Proceſſus Pterygoides*, and the third Bone of the Jaw: thro' this *Ductus* runs the lower Branch of the foremoſt Fibre of the fifth Pair.

About the length of two Hairs breadth beyond theſe *Ductus*'s, we may alſo diſcover in the *Os Sphænoides* or Wedge-like Bone, two Holes of an Oblong and almoſt Oval Figure, which are plac'd in the hindermoſt Sides of that of the *Os Sphænoides*, and give Paſſage to the hindermoſt Fibre of the fifth Pair.

The Hole thro' which runs the *Auditory* Nerve, that makes the ſeventh Pair, is in the middle of the hinder Part of the *Os Petroſum*, that looks towards the *Cere-*

bellum. This Hole being very large, is the Entrance of a *Ductus* that is hollow'd in the *Os Petrosum*, and which sinking obliquely from the Fore-part backward, for the depth of about two Hairs breadth, forms as it were the bottom of a Sack, the lowermost Part whereof is terminated partly by the *Basis* of the *Cochlea*, and and partly by a Portion of the Mouth of the *Vestibulum*. At the bottom of this *Ductus* are many Holes, but the most considerable is that of the upper Part, through which passeth a Portion of the Auditory Nerve. This is also the Entrance of another *Ductus* made in the *Os Petrosum*, which is open'd between the *Mastoides* and *Styloides*. The other Holes afford a Passage to the Branches of the soft Portion of the same Auditory Nerve.

Below this *Ductus* there is a remarkable Hole form'd by the meeting of two hollow Cuts, the larger whereof is in the Occipital Bone, and the other in the lower Part of the *Processus Petrosus*. From the middle of the upper Part of this Hole issueth forth a small Prominence or bony Point, whereto is join'd an Appendix of the *Dura Mater*, which divides the Hole into two Parts; so that through the foremost Orifice passeth the Nerve of the eighth Pair, and that which is call'd the *Spinal* Nerve. We shall have occasion hereafter to shew the Use of the hinder Orifice.

Near the great Hole of the Occipital Bone, from whence proceeds the *Medulla Oblongata*, we may observe a Hole almost round and oblong, thro' which passeth the Nerve of the ninth Pair. This Hole is intirely situated in the Occipital Bone, and making a little way in the Bone, passeth obliquely from the back Part forward. In the Inside of the Skull this Hole is sometimes double, but its two Entrances are re-united in the outward Part of the Skull; and the two Branches that form the Origin of this Nerve, and which pass thro' these two Holes, are likewise re-united at their Going out. These are the Passages of the nine Pair of Nerves that proceed from the *Medulla Oblongata*. It remains only to shew the Paths, thro' which the Intercostal Nerve goes forth; as also that of the tenth Pair. The Intercostal runs out of the Skull, thro' the *Ductus* that gives Entrance to the *Internal Carotid*. As for the tenth

Pair,

Pair, in regard that it ariſeth from the Marrow which is inclos'd between the Occipital Bone and the firſt *Vertebra*, it goes forth thro' the Hole of the *Dura Mater*, where the *Vertebral* Artery enters.

To know well the Holes, thro' which the Veſſels that belong to the inner-part of the Head enter, and iſſue forth, it is requiſite to diſtinguiſh them into thoſe which are diſtributed to the *Dura Mater*, and thoſe that are appointed for the Brain. The Veſſels of the *Dura Mater* are Branches of the *Carotid* or *Vertebral* Arteries.

In the *Os Sphænoides* or Wedge-like Bone, behind the Hole, thro' which paſſeth the hindermoſt Fibre of the fifth Pair of Nerves, lies another ſmall Hole, almoſt round, that gives Entrance to a Branch of the *External Carotid* Artery, which in entering, immediately adheres to the *Dura Mater*, and forms many Ramifications to over-ſpread the whole Portion of this Membrane, which covers the Sides and the upper-part of the Brain.

At the bottom and top of the lateral outward Part of the Orbit of the Eye, above the acute Angle of the Cleft of the *Os Sphænoides*, there is a Hole, thro' which paſſeth an Artery, being a Twig of a Branch of the *Internal Carotid* which waters the Eye, and is diſtributed to almoſt the whole Portion of the *Dura Mater*, that covers the Fore-part of the Brain.

The *Vertebral* Artery in entering into the Skull, furniſheth it on each Side with a conſiderable Branch, which is diſpers'd throughout the whole Portion of the *Dura Mater* that covers the *Cerebellum*.

As for the *Veins* that accompany theſe *Arteries*, they almoſt all go out of the Skull thro' the ſame Holes where the others enter.

There are four thick Arteries, which convey to the Brain the Matter with which it is nouriſh'd, and that whereof the Spirits are form'd, *viz.* the two *Internal Carotids*, and the two *Vertebrals*.

The *Internal Carotid Arteries* enter into the Skull thro' a particular *Ductus* made in the temporal Bone, the Mouth thereof being of an oval Figure, and ſituated in the outward Part of the *Baſis* of the Skull, before the Hole of the *Internal Jugular*. This *Ductus* exrends

it ſelf obliquely from the Back-ſide forward, and after having made about three Hairs breadth in length, is terminated in the hinder-part of the *Sella* of the *Os Sphænoides.* The Artery traverſeth the whole winding Compaſs of this *Ductus*, which reſembles the Figure of the *Roman* Letter S; and at the Mouth of the ſame *Ductus* runs under the *Dura Mater* along the Sides of the *Os Sphænoides*, to the *Anterior Proceſſus Clinoides*, where it riſeth up again, to perforate the *Dura Mater*, and to adhere to the Root of the Brain. Theſe Veſſels, in like manner, after their Departure from the Bone of the Temples, to the Place where they pierce the *Dura Mater*, make a ſecond Circuit in form of the *Roman* Character S. At the Place where theſe *Carotid Arteries* penetrate the *Dura Mater*, they ſend forth a thick Branch, which enters into the Orbit of the Eye, by the lower Part of the Hole, thro' which the *Optick Nerve* hath its Paſſage.

The *Vertebral Arteries*, proceeding from the Holes of the tranſverſe *Proceſs* of the firſt *Vertebra*, turn about in paſſing under the upper Oblique *Proceſſes* of the ſeven *Vertebræ*: afterward they perforate the *Dura Mater*, and running under the Marrow, enter into the Skull through the Occipital Hole; then inclining one toward another, they are re-united, and form only one ſingle Trunk.

The Veins that bring back the Blood from the Subſtance of the Brain, are empty'd into the *Sinus*'s of the *Dura Mater*, which are all diſcharged into thoſe that are call'd *Lateral*, which laſt go out of the Skull immediately under the Nerves of the eighth Pair, thro' the hinder-part of the Hole made by the meeting of the *Occipital Bone* and the *Apophyſis Petroſa.* Theſe Lateral *Sinus*'s fall into the *Internal Jugulars*, which are receiv'd into a conſiderable Cavity, hollow'd on each Side in the outward Part of the *Baſis* of the Skull, which is nam'd the Pit or Hole of the *Internal Jugular.*

In the upper and hinder Part of the Hole, from whence the Lateral *Sinus*'s iſſue forth, is to be ſeen an opening in the Extremity of a *Ductus*, the Mouth whereof lies behind the *Condyli*, which are on the ſides of the Occipital Trunk. This *Ductus* is extended about the length

length of two Hairs breadth in the Bone, and the Canal inclos'd therein is open'd immediately into the *Vertebral Sinus*: ſo that one might affirm it to be as it were its Original Source. Whence it appears, that the Blood contain'd in the Lateral *Sinus's* is empty'd thro' two Places; the greater Portion thereof deſcending in the *Jugulars* of the Neck, and the reſt in the *Vertebral Sinus's*. Sometimes theſe *Ductus's* are found only on one Side; another while both are ſtopt up, and then the Blood contain'd in the lateral *Sinus's*, is diſcharg'd into the *Internal Jugulars*.

Behind the *Proceſſus Maſtoides* on each Side, is a remarkable Hole, thro' which paſſeth a thick Vein, which brings back part of the Blood that hath been diſtributed to the Teguments and Muſcles, which cover part of the *Occiput*, or hinder-ſide of the Head: this Vein is open'd into the lateral *Sinus's* at the Place where they begin to turn about. But in the Heads of ſome Perſons, this Hole is found only on one Side, and even ſometimes not at all; in which Caſe the Blood contain'd in theſe Veſſels falls into the *External Jugulars*, with which the Branches of this Vein have a Communication.

In each *Parietal* Bone on the ſide of the *Sagittal* Suture, at a little diſtance from the *Lambdoidal*, appears a Hole, thro' which paſſeth a Vein, that brings back the Blood of the Teguments of the Head, and diſchargeth it ſelf into the upper *Longitudinal Sinus*. Theſe Holes are ſometimes ſtopt up on one Side, and ſometimes on both; and then the Blood contain'd in the Branches of this Vein runs into the *External Jugulars*.

In the middle of the *Sella* of the *Os Sphænoides*, we may obſerve one or two ſmall Holes, thro' which (according to the Opinion of ſome Modern Anatomiſts) the *Lympha* contain'd in the *Glandula Pituitaria* is thrown into the *Sinus* of the *Sella* of the *Os Sphænoides*; nevertheleſs it is certain, that theſe Holes are fill'd only with Blood-Veſſels, which carry and bring back the Blood of the Bones and Membranes, whereof thoſe *Sinus's* are compos'd; beſides that, theſe Holes are rarely found in Adult Perſons.

Between the Spine of the *Coronal* Bone and the *Criſta Galli*, is a Hole, which ſerves as an Entrance for a *Ductus*, which ſinks from the top to the bottom, the length of about two Hairs breadth into the Subſtance of the inner Table of that Bone. The Root of the upper *Longitudinal Sinus* is ſtrongly implanted in this Hole, which alſo affords a Paſſage to ſome Blood-Veſſels appointed for the Nouriſhment of this inner Table.

Many other ſmall Holes are found in divers Places of the *Baſis* of the Skull; the chief whereof are thoſe that are obſerv'd in the *Apophyſis Petroſa*, and give Paſſage to a great Number of Veſſels that ſerve for the Nutriment of that Part of the Temporal Bone which is call'd the *Tympanum* or Drum. The other Holes are principally deſign'd for the Veſſels that are ſerviceable in the nouriſhing of divers Parts of the *Baſis* of the Skull.

CHAP. XVII.

The following Anatomical Hiſtory was communicated to me by Mr. Francis Poupart, *tho' he does not aſſume it as his own, it being extracted from ſome Modern Authors, tho' with ſome Difference in the Order.*

A Deſcription of the Brain.

WHoever would know the true Reaſons of the Motion of a Watch, can never ſatisfie himſelf better than by taking it in pieces, after he has conſidered its Outſide. In the ſame manner, the Naturaliſt who inquires into the Cauſes of the Functions of the Brain, muſt diſſect the wonderful Machine, and conſider well all the Parts which compoſe it.

After the five common Teguments are remov'd, there remain three more peculiar to the Head alone; the one

one carnous, the other membranous and the laſt bony, *viz.* the Muſcles, the *Pericranium*, and the Skull, which ſerves as a natural Helmet to cover the Brain, and defend it from the Injuries which ſo ſoft a Subſtance would otherwiſe be expos'd to. I ſhall not ſpend Time in obſerving, that the Skull is divided into two Tables, which are ſeparated by a ſpongy or cavernous Space, call'd the *Diploe*; that this natural Armour is made of Pieces well adjuſted together, and diſtinguiſh'd by Junctures, call'd *Sutures*, which are ſo many Vents thro' which the Vapours of the Brain exhale; that the inner Surface of the Skull is lined with the *Dura Mater*, and has ſeveral Furrows imprinted in it by the beating of the Arteries of the *Dura Mater*, whilſt the Subſtance of that Bone was tender; nor, in ſhort, that the round Figure was given to it in Men, not only that it might contain more, but alſo that it might be ſolid. For the Famous Mr. *Boyle*, having put two Glaſs-Veſſels into his Pneumatick Engine, and exhauſted the Air, ſuffering it to ruſh in of a ſudden by opening it a Paſſage, he found the round Glaſs intire, when that of an irregular Figure was broken by the *Impetus* of the Air. I ſhall paſs over theſe Conſiderations the more willingly, ſince they do not aſſiſt us much in the Knowledge of the Animal Operations, which it is my preſent Deſign to ſpeak of.

When the Cap of the Skull is taken off, the Brain preſents it ſelf to view, as it is cover'd with the *Dura* and *Pia Mater*, which are interlac'd with an Infinity of Veins and Arteries; from the beating of which, its *Syſtole* and *Diaſtole* proceed.

The *Dura Mater*, beſides an Infinity of ſmall Veſſels, has four conſiderable Branches, call'd *Sinus*'s, which have a Pulſation like Arteries, and bring back the refluent Blood like the Veins.

Some have thought the Animal Spirits are generated there; and others allot them to cool the Blood which comes out of the Arteries. But their true Uſe is like a *Balneum Mariæ*, by a mild and moiſt Heat to help the Diſtillation of the Animal Spirits in the cinereous Subſtance of the Brain, and bring back the ſuperfluous Blood into the Jugular Veins. All the Veins of this Part are like ſo many ſmall Brooks, which

which discharge the Blood into four great Rivers.

The *Sinus* extending along the *Falx*, and answering to the Sagittal Suture, is the largest of all. The two Laterals which follow the *Lambdoidal* Suture are larger than the fourth, which is call'd the *Torcular*. This is form'd by the Concourse of the three former, and strikes into the inmost Parts of the Brain. When it arrives at the *Glandula Pinealis*, which adheres close to it by a great Number of Vessels, it makes a Fork, one Branch going to the right, and the other to the left Ventricle, and there forms the two *Plexus Choroides*, by joining to two Arteries which rise from the *Carotids*, and proceed along the Sides of the *Medulla Oblongata*: and for this reason these *Plexus* follow the *Torcular*, if it be drawn back.

They are likewise interwoven with a Quantity of Lymphatick Vessels, and compos'd of many imperceptible Glands, which gives occasion to believe, that part of the Serosities found in the Ventricles of the Brain, may be separated there. However, it is probable, that this is not the chief Use of these *Plexus*; but rather that they serve as a *Balneum Mariæ*, whose Heat keeps Motion in the Animal Spirits, lodg'd in the *Corpus Callosum* immediately above them, which otherwise would be cold, having few or no Vessels to heat them. The Heat of these *Plexus* further serves to keep the Serosities in the Ventricles fluid; which otherwise would be dispos'd to thicken by the Cold, if they were not heated by this great number of Vessels; and by this means prevents Apoplexies and Palsies, which the Stagnation of these condens'd Liquors, or the Obstruction they might make in the *Infundibulum*, would otherwise cause.

As Rivers divide Countries, so these *Sinus*'s, as so many Currents of Water, separate the Brain into three Provinces. The Lateral ones make a Separation of the *Cerebrum* and *Cerebellum*. The former is divided into two Hemispheres by the Longitudinal, which breaks the Impetuosity of the torrent which runs there, by several Ligaments, which may aptly be compar'd to Chains drawn across Streets to stop the Confluence of People. Besides this, these Ligaments serve to keep the sides of the *Sinus*'s at a certain distance, for fear

the

the Channel ſhould be too much inlarg'd by extraordinary Inundations. Theſe ſerve too as Bridles, to give a Check to, or to haſten the Circulation of the Blood, by their Contraction or their Relaxation. For the refluent Blood, having loſt its moſt ſpirituous Part in the Cinereous Part of the Brain; and having left behind it in the Glands of the Meninges a Part of its Seroſity, muſt neceſſarily be thicker. Therefore to prevent it from Stagnating in the *Sinus*, there are Arteries inſerted into it, which add new Life and Motion to it.

The Veins that come to theſe *Sinus*'s have their Courſe from before backward, in Animals with their Head hanging down, leſt a contrary Poſition might give way for the Blood to fall down to the Noſtrils, whither it is enough inclined by its own Weight. But in Men, theſe Veins tend from behind forwards; from whence it proceeds that Men are more ſubject to bleed at Noſe than Beaſts, the determination which ſuch a ſituation gives to the Motion of the Blood, carrying it in great quantities towards the Noſtrils.

And ſince theſe Lateral *Sinus*'s may be more preſs'd by the *Cerebellum* in Beaſts, who have their Head hanging down, and eſpecially in ſuch as are deſign'd for Swiftneſs, as Dogs, or Fighting, as Lions, which might ſtop the Circulation of the Blood in the Brain; Nature has plac'd a Bone of a Triangular Figure between the *Cerebellum* and theſe *Sinus*'s, to prevent Compreſſion. Without this Precaution, the Weight of the *Cerebellum* bearing on the Brain, would preſs together its Channels, and hinder the free Motion of the Animal Spirits; which would cauſe a perpetual Lethargy.

It is in theſe *Sinus*'s chiefly, that the *Dura Mater* is ty'd to the Skull by its convex Surface, which helps to ſuſpend the Brain; and by its concave Surface, it adheres to the *Pia Mater* by ſeveral Veſſels.

This is interwoven with a great Number of Arteries, the leaſt of which have but one Tunick, and as many Veins which form divers admirable Labyrinths. It does all the good Offices to the Brain which a tender

der Mother can do to her Infant. It keeps it warm in her Boſom, when it has not ſtrength to ſtand of it ſelf. It defends and keeps it from external Injuries, and gives it as it were Breaſts to draw Nouriſhment from. The *Dura Mater* does the ſame Services for the Brain: and after this there is no room to ask, why the Name of Mothers has been given to theſe two Membranes of the Brain: tho' ſome pretend, that theſe are ſo call'd, becauſe all the Membranes of the Body ſpring from them.

Tho' the *Pia Mater* be a very thin Membrane, yet it is beſet with a great Number of Glands, which can only be ſeen by the Microſcope; or after they have been ſoak'd for ſome time in warm Water, in which they ſwell, as in a *Hydrocephalus*; for then being fill'd with Seroſities they are more remarkable. They were firſt diſcover'd by *Dr. Willis* in an Hydropical Head; but it cannot be ſaid they are the products of a Diſeaſe, becauſe they are found naturally in the Head of all Animals.

All theſe Glands being very ſmall, do not hinder the *Pia Mater*, which abounds with them, from inſinuating it ſelf into the deepeſt *Anfractus* in the cinereous Part of the Brain, ſtopping on the Edge of the callous Subſtance, on which it beſtows ſeveral Veſſels, tho' Dr. *Willis* has not obſerv'd any.

The Brain being intirely diveſted of theſe two Membranes, its cinereous greyiſh Subſtance appears under. This Colour is not ſo ſuperficial but that it penetrates to the bottom of the Sinuoſities, with which the ſuperficies of the brain is furrowed, even to the Medullary Part, which is as white as Snow.

It is very probable, that the different Colour of theſe two Parts does only proceed from the different Diſpoſition of their Surfaces; and that the one is white, becauſe it reflects more light towards our Eyes, and the other brown, becauſe it reflects leſs, admitting part of the light into its Pores.

But a more particular Cauſe of the brown Colour may be given, by aſcribing it to the *Sal Armoniack* which is very plentiful in the Brain, which by its Volatility is ſublim'd to the upper Part, being ſtop'd there by the cloſe Contexture of the Skull. The Scent of the Brain, eſ-

eſpecially when it begins to corrupt, and the Chymical Anatomy of it by Diſtillation, ſhew it is fill'd with ſuch a Salt as we have deſcrib'd. Laſtly, the greyiſh Colour of the inner Subſtance of the Kidneys, which is full of an Urinous or Armoniack Salt, ſhews that this is capable of giving a Colour to ſuch Bodies as it abounds in, as in the cinereous Part of the Brain.

ThisPart is diſtinguiſh'd by a Multitude of Furrows, the uſe of which was unknown to the Antients. *Ariſtotle* fanſies they ſerve to make the Brain lighter; but if this were all the Deſign, Nature might have made it leſſer. *Eraſiſtratus* places the Underſtanding here, which is founded on the Variety of its *Anfractus*, which anſwers well enough to the Variety of its Thoughts. But this Imagination being founded more on Morality than Nature, I ſhall paſs it by in this Place. It is more probable, that they ſerve to introduce the Veſſels into the *Pia Mater*, which goes to the bottom of theſe Furrows.

And ſince they are as it were ſo many Pores, through which the Matter of the Spirits is convey'd into the Brain, thoſe Animals which have moſt of theſe *Anfractus*'s muſt have moſt Spirits, and by Conſequence moſt Sagacity, which chiefly depends on this ſubtil Liquor. To this Dr. *Willis*'s Obſervations do agree. And as the Animal Functions in Men do require more Spirits than in Beaſts, with much more Reaſon we may conclude, that thoſe who have the feweſt *Anfractus*'s have the leaſt Wit, becauſe they cannot ſo well exerciſe the chief Functions of the Soul, as thoſe who have more. Wherefore little Heads which have very few, and ſharp-pointed Heads, which contain ſtill leſs, becauſe the cinereous Part is very ſmall, being preſt by this Figure which contracts it ſelf above, are ſubject to Folly: which gave occaſion to the *Latin* Proverb, *Cilones in inſaniam proclives ſunt.* And the Prince of the *Greek* Poets obſerves, That *Therſites* had his Soul as ill turn'd as his Body, painting him, in theſe Terms, Φοξὸς, and ἀμφιγυήεις.

We have inſiſted long enough on the Surface of the Brain. If we proceed a little farther, and examine nearer the Cinereous Subſtance, we ſhall find that it is nothing more than an Aggregrate of an Infinity of

ſmall

ſmall Glands, ranged one near another, which are more conſpicuous when the Brain is half boil'd, than when it is raw, or throughly boil'd. And as all the Glands which ſerve for Filtration, have a particular Veſſel, into which they diſcharge their Liquor: ſo the Glands of the Brain have each their particular excretory Tube, thro' which the Animal Spirit which they filter is convey'd.

All theſe Tubes, meeting in a *Faſciculus* or Bundle, make the *Corpus calloſum*, which lies immediately under the aſh-colour'd Subſtance: they form alſo the Spinal Marrow, and *Medulla oblongata*, which is ſeated under the *Corpus calloſum*. So that the Brain may be juſtly compar'd to a Bunch of Grapes. The Glands of the Cinereous Subſtance are the Grapes; the Medullary Tubes which ariſe from them, are the Stalks; which unite and end in one Stalk, and that is the *Medulla oblongata*. The Tubes ariſing from theſe Glands, are thicker in the *Corpus calloſum*, which is immediately beneath them, than in the *Medulla Oblongata*, which is more diſtant. Nor can it be thought ſtrange, that this laſt is not ſo large as the *Corpus calloſum*, tho' it be an Aggregate of the ſame *Tubes* which compoſe both.

If we purſue theſe Medullary Channels, they will lead us to certain Cavities call'd the Ventricles of the Brain, which ſeem to be form'd by the Meeting of the two great Branches, which riſing from the Trunk of the *Medulla oblongata*, or the Baſis of the Brain, form a ſort of a Vault. Their Figure reſembling a Creſcent, perhaps gave the Ancients occaſion to fanſie the Moon had the Government of the Brain. The Seroſities with which moſt commonly they are fill'd, the Situation of the *Infundibulum* in the middle of them, in which it ſerves as a Sink, and the *Glandula Pituitaria* directly beneath to receive what comes from them, ſeem to evince they are only Receptacles of the ſuperfluous Moiſture of the Brain, and not the Laboratory of the Animal Spirits, which ſubtil Fluid muſt needs eſcape thro' the Arches of this Vault, or the *Infundibulum*, or the Hole which anſwers to the *Criſta Galli*.

Theſe two Ventricles are divided by a Partition which the *Latins* call *Septum lucidum*, by reaſon of its tranſ-

tranſparence. This Partition is faſtened above in the Roof of the Ventricles, and below to the *Medulla oblongata*, between two Eminences call'd *Corpora ſtriata* or the channell'd Bodies, from the Furrows viſible in them.

And as all Roofs have need of ſome Pillars or other Props to ſupport them, ſo this of the Brain has three, one of which is call'd the *Baſis* of the Vault, which is ſeated between the *Thalami* or Beds of the Optick Nerves, and theſe ſtriate or channell'd Bodies. The two others are call'd the Arms of the Vault, becauſe in effect they embrace the Thighs of the *Medulla oblongata*. Theſe might with better Reaſon be call'd the Arches of the Vault, becauſe theſe Arms bending a little towards the ſides of the *Medulla oblongata*, form a Bridge with two Arches and three Pillars, which make the *Baſis* of the Roof, and the two Extremities of its Arms which ſupport themſelves on the *Medulla oblongata*.

The two Branches of this *Medulla* bear the Name of the Thighs, not only becauſe they pretty much reſemble thoſe Parts in their Figure, but farther becauſe there are above them two Eminences which are like Buttocks. Between theſe two Parts there is a Hole which is call'd *Vulva*, becauſe its Figure and Situation is not very unlike that Part. That call'd *Anus* has its Name too from its Figure and Situation, which is preciſely between the Buttocks, at the Entry into the third Ventricle.

The Thighs of the *Medulla oblongata* do not join ſo well but that they leave between them a Hole call'd *Infundibulum* or the Funnel, which terminates at the *Sella Turcica* on the *Glandula Pituitaria*, with which it is inchaſed there as in a Nich, and all interlac'd with an Infinity of ſmall Arteries which come from the Carotids; for it is by that way they enter into the Brain; their Branches joining with ſo many ſmall Veins, compoſe that Contexture, which is juſtly call'd *Rete mirabile*. The Pituitary Gland is like a Sponge, which abſorbs the ſuperfluous Seroſity which is contain'd in the Arteries of this *Plexus*, which Man has no occaſion for, his Blood not being ſo watry as that of Beaſts.

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The Veins of the *Rete Mirabile*, which terminate likewiſe in the *Pituitary* Gland, are charged with the Humidities which the *Infundibulum* is conſtantly pouring in, and which it receives from the Arteries which enter it on every Side, and carry them into the Jugular Veins to make the Blood more fluid, which by the loſs of its Spirits in paſſing through the Brain, was become thick; and this is the Cauſe too why the Trunk of the Lymphatick Veſſels diſcharges its *Lympha* into the Axillary Veins, which are Ramifications of the Jugulars. The Injection of colour'd Liquors, which is made thro' the *Infundibulum*, and which appear in the Jugulars, will not ſuffer us to doubt that the Seroſities of the Brain go thither.

For we muſt not believe, that the Water which runs thro' the *Infundibulum*, paſſes thro' the *Os Sphænoides*, and diſcharges it ſelf by the Palate into the Mouth; thro' the Water which Dr. *Willis* poured into the *Sella Turcica*, after he had remov'd the *Dura Mater* which lined it, the Pituitary Gland, and all the Veſſels of the *Rete mirabile* (ſome of which fill the Hole of the *Os Sphænoides*) did diſtil into the Mouth, becauſe he himſelf had made a Paſſage, by removing the Veſſels which fill the Holes; whereas in a living Animal, this Bone being lined with the *Dura Mater*, and its Holes fill'd, it is impoſſible that any Liquor ſhould paſs, as any one will find who will pleaſe to make the Experiment. Pour Water or any other ſubtil Liquor, as Spirit of Wine, into the *Sella Turcica*, and you will not find the leaſt Drop go into the Mouth.

For the better diſcovering the Pituitary Gland and the *Rete mirabile*, you muſt free the *Dura Mater*, which adheres to the *Baſis* of the Skull, beginning at the Entry of the Spinal Marrow, and continuing to the *Sella Turcica*. This cannot eaſily be done but in the Head of a Calf; becauſe that in other Animals, who have the Head leſs tender and moiſt, this Membrane clings more cloſely to the Skull.

The Pituitary Gland is not only water'd by the Seroſities of the Anterior Ventricles, but farther by thoſe which come from the Cerebel by the fourth Ventricle, or by that which flows from the *Nates* by the third. And this can ſcarcely be deny'd, if we reflect, that from

from the fourth Ventricle quite to the *Infundibulum* there is a continu'd Valley, in which there runs a Stream of Serosities, which passing under the Part called *Varolius* his Bridge, seated under the *Glandula Pinealis*, goes and discharges it self into the *Infundibulum*, and thence into the Pituitary Gland.

But for fear this Rivulet should exceed its Bounds, and run over the Lateral Processes, which bound its Channel to the right and left, and which are seated between the Brain and the Cerebel, there is a Cloth spread over to hinder these Inundations. For the rest, this Cloth cannot in any manner do the Office of a Valve; because it hinders neither Wind, nor any Liquor from passing from the third to the fourth Ventricle, nor from the fourth to third, as appears by blowing, or making Injections. Besides that its two Ends are fastened to the Roof of these Ventricles, that is, on the side of the Cerebel, to the Head of the Vermicular Process, and on the side of the *Nates* to the Edge of the Testicles; whereas to perform the Office of a Valve, it ought to have been fastened below.

For the more fully evincing the Truth of this, there requires nothing more but to pass a Probe dextrously underneath, and to observe heedfully upon laying it open, whether it has made it self a Passage by tearing the soft Substance, or has followed the Road which Nature has traced; and if you have introduced it as you ought, you will find it has made no Breach.

From what I have said, I am perswaded, that the third and fourth Ventricle, as well as the two anterior ones, only serve to receive the Serosities of the Parts above them, very far from what *Bartholin* fansies, that the fourth is the Place where the Animal Spirit is generated.

The third Ventricle arises from the Conjunction of the two round Eminences by their concave Surfaces. Both those half Spheres and their Processes, which have the Shape and Name of Testicles, are only Productions of the *Medulla oblongata*.

In passing from these Eminences to the *Cerebellum*, there are three sorts of *Apophyses* or *Processes*, viz. two Lateral, lying all along the *Medulla* on its Edges. These are joined by a middle Process, where the Pathe-

tick Nerves take their riſe. All theſe Proceſſes are on the *Medulla oblongata*, below which there are the Pyramidal and Annular Proceſſes; which taking their riſe from the Cerebel, like a Ring, embrace the *Medulla oblongata*.

Theſe Lateral Proceſſes ſerve to keep a Communication between the Brain and the Cerebel, and convey the Undulation of the Spirits from one to the other; and perhaps the courſe of one is from the Brain to the Cerebel, and the other is the reverſe of this, that two contrary Undulations at the ſame time may not hinder one another; and this is the reaſon of their Duplicity.

The middle Proceſs communicates to the Pathetick Nerves, which ariſe from it, the Undulations which the Paſſions imprint upon the Spirits, and which paſs from the Cerebel to the Brain by the Lateral Proceſſes. Theſe Undulations of the Spirits being conveyed to the Muſcles of the Eye, put them into ſeveral Motions proper to diſcover the Paſſions which cauſe them, as any one may diſcover in himſelf or another, upon any Emotion of the Mind. Hence it is, that the Nerves of the fourth Pair, which generally convey theſe Undulations to the Eyes, are commonly called *Pathetici*.

The Pyramidal Proceſſes are the Receptacle of the Spirits, which flow into the eighth pair of Nerves, which, making inceſſant Motions, like thoſe of the Lungs and Diaphragm, require a great ſtock of Spirits which are kept in theſe Proceſſes.

In the laſt place, the Annular Proceſſes ſerve to keep a communication between the Heart and the Brain, in ſuch manner, that all the pathetick Undulations which are raiſed in the Spirits of the Heart, being conveyed to the *Cerebellum* chiefly by the Nerves of the fifth and ſixth Pair, paſs thro' the Proceſs in which theſe two pair of Nerves terminate. For this reaſon it is, that Animals which are moſt paſſionate have their Proceſſes larger than others, becauſe the Spirits dilate them by paſſing often thro' them.

The Cerebel, in which theſe Proceſſes terminate, is formed by two Branches, which leaving the Sides of the Trunk of the *Medulla oblongata*, form a ſort of Arch above, meeting in the middle, and leaving a Cavity between

tween them, which is accounted the Fourth *Ventricle*, which towards the Spine ends in a Point like that of a Pen.

These Branches, as they recede from the Trunk, are divided into several lesser ones, which make a sort of little Wood in the substance of the *Cerebel*, whose Sides are easily divided into divers pieces, like the sort of Mushrooms call'd *Morilles*.

This Separation is made by the help of a few large *Anfractus*. The small ones are more numerous and regular than those of the Brain, and form a Cortical Substance like so many Bowels, of which the *Corpus callosum* resembles the *Mesentery*.

The deepest *Anfractus* are in the *Middle Process*, which from its Figure is called the *Vermicular* one. It resembles a Ring which incompasses the *Cerebel*, or a Worm which bends back to bite its Tail.

It may be observed, that the *Cerebel* in Men and Beasts are very much alike; because the Vital and Natural Actions which depend on it, are performed in the same manner in one as in the other: whereas there is a very considerable difference between the Brains in Men and other Animals; because the Functions of this part are very different in these two *Species*.

I think, the Opinion of those Men is too Metaphysical, who pretend that the Furrows of the *Cerebel* ought to be regular, because its Functions are performed very regularly, and always in the same manner; and that those of the Brain should be irregular, by reason of the various Modes in which it exerts its Operations.

The *Cerebel* and Brain are both placed and supported on the *Medulla oblongata*; or rather, they are only principal Branches of this great Trunk, of which the Nerves are the lesser ones.

The *Olfactory Nerves* arise from its Anterior Extremity, or its two first Eminences, which are called the *Striate* or *Channell'd Bodies*.

The *Optick Nerves* come from these two Eminences, which are in the Anterior Ventricles, between the *Striate Bodies* and the *Nates*; and for this reason they are called the *Optick Beds*, or *Thalami Optici*.

The *Motory Nerves* of the Eye arise from that Place of the *Medulla oblongata*, which lies between

theſe two Eminences, and the *Nates* or *Buttocks*.

The Patheticks ſpring from the middle Proceſs, which joins the two Lateral ones, and is ſeated behind the *Teſticles*.

The fifth and ſixth Pair ſpring from the *Annular Proceſſes*; the ſeventh and eighth Pair from the *Medulla oblongata* under the *Cerebel*.

The ninth, tenth, and eleventh, take their riſe from the Extremity of the *Medulla oblongata* beyond the *Cerebel*.

Laſtly, All the other Nerves, which are very numerous, ariſe from the ſame *Medulla* included in the Hole or Pipe of the Spine of the Back; which, like Organs, is compoſed of a large Pipe and ſeveral ſmall ones. The great Tube is the Spinal Marrow, and the ſmall ones are the Nerves which come from it. The Animal Spirit which flows thro' it, is like the Air which fills theſe Organs; and the Soul is like the Organiſt which plays on them, determining the Spirits ſometimes into one Nerve, and at other times into another; tho' often it has no ſhare, the exterior Objects becoming then the Organiſt, and determining the Spirits in different manners.

Tho' all Nerves ariſe from the Brain, yet it may be ſaid it has none, ſince none is inſerted into it; and therefore its proper Subſtance has no Senſe.

CHAP.

CHAP. XVIII.

Of the Method of Diſſecting the Brain.

FOR the perfect View of all the Parts mention'd, I do not approve of making two deep Inciſions into the Brain, reaching to its Ventricles, which is *Sylvius*'s Way; nor of making them beneath, on the Sides of the *Medulla Oblongata*, as *Bartholine* teaches; nor, of cutting the Brain Horizontally, as the moſt Part of our Surgeons ſtill do. Laſtly, tho' Dr. *Willis*'s Method be excellent, I would not, like him, cut the two *Lateral Parietes* of the *Anterior Ventricles*, with the *Baſis* of the Arch and the *Septum lucidum*, which cannot be ſhewn exactly, if we purſue theſe Steps: Nor would I at firſt cut the *Cerebellum* thro' the Middle, for a Reaſon I ſhall hereafter give.

I am perſuaded that the more a Part can be unravell'd without cutting its Subſtance, the better its natural Structure may be diſcover'd, which otherwiſe is much alter'd by the Inciſions made into it. However, I admit, that when all the Parts are exactly laid bare as far as they can be without tearing their Subſtance, to ſee as it were the Outſide of Nature, there be as many Inciſions made as you pleaſe, to view the Inſide: the one ſerves to diſcover the Form of the Part, and the other to give a perfect knowledge of its Nature. If any one deſires to know the Artifice of a Machine, which may be taken to pieces, he cannot take a better way, than to run thro' the Jointings and Separations which the Workman has left between its Parts: ſo the Anatomiſt, who would diſcover the natural Machine of an Animal Body, cannot do better than to follow the Separations which Nature has made; and this is the way which I have taken to ſhew the Structure of the Brain.

After the Skull is neatly ſaw'd off all round without cutting the *Meninges*, and the Brain by this means is laid bare, I make an Inciſion with the Point of a Pen-knife, and enter into the *Sinus*, at their meeting, that is, at the hinder

End of the *Falx*, becauſe they are largeſt there. Then introducing a Probe into each *Sinus*, I open the three upper ones, by cutting lengthways the Membrane which joins them; I follow the Longitudinal to the *Criſta Galli*, and the Lateral ones to the *Jugular Veins*, into which they diſcharge the blood they carry.

By this we ſee the *Jugular Veins* conſiderably dilated, where they go out of the Head, and making each of them a ſort of a Gulph, where the Blood ſtops in the precipitate Courſe of its Deſcent, for fear that, if it ſhould fall with too great Rapidity, the Brain might be too ſoon evacuated or the Heart oppreſs'd with too great Abundance.

After this, I ſlit the *Dura Mater* from the Proceſs of the *Ethmoidal Bone*, which is call'd *Criſta Galli*, quite to the Beginning of the Spinal Marrow, to the Right and the Left; and I cut the two Lateral *Falces*, which lie in that Valley which ſeparates the Brain from the *Cerebel*, in order to turn the Brain back.

For this purpoſe having cut the *Dura Mater*, which makes a Bridle before, and hinders the turning it back, I divide in the neateſt manner I can the *Mamillary Proceſſes* of the *Olfactory Nerves* which lie beneath. This Separation may be handſomely made with the End of the Handle of a Dreſſing-Knife, or by cutting finely with the Point the ſmall Ligaments which tie theſe Bodies together.

After this, I make an Inciſion on the *Olfactory Nerves*, to lay open a conſiderable Cavity, which moſt commonly is fill'd with Seroſities in Beaſts which graze; becauſe their Nouriſhment being moiſter than that of other Animals, their Brain is ſo in proportion likewiſe. This Water ſerves to abate the exceſſive ſtrong Scent of ſome Plants which wou'd offend the tender Subſtance of the Brain; as the Humours of the Eyes preſerve the *Retina* from the violent ſtriking of the Rays of the Sun.

Altho' the Cavity of the *Olfactory Nerves* be not very ſenſible in Men, yet the yellow Water, which Dr. *Willis* ſaw oftentimes flowing from the Noſtrils of an Epileptick Woman, who had the Ventricles of the Brain full, makes us conjecture, that there are one or more inſenſible Ways, which bring to the Noſtrils

part

part of the Moisture of the Brain, which contribute to furnish Matter for the Snot.

This done, I finish the cutting of the *Olfactory Nerves*, which I continue to separate gently from the *Basis* of the Brain quite to their Rise. Then the Brain begins to invert it self by its own Weight, if it have room to incline backwards, and discovers the Optick Nerves, which must be divested of the two *Meninges*. To shew how they are united in the Place where they enter the Cavity of the Skull, how they are separated again a little above, and the difference of the Fibres which compose these two *Nerves*. In short, I follow them to the *Optick Eminences*, that is, to their Origin.

I do the same thing to the other Nerves; and cutting all those Strings which tie the Brain to the Skull, I take it quite out of its Place. This Method of taking the Brain out of the Skull is short and good; but I shall shew another which is something more tedious, but is much better.

Having laid open the Artery of the Neck of an Animal, and made an Incision sufficient to receive the End of a Syringe; I make several Injections with a certain black Liquor, or rather with Wax melted and mix'd with Oil of *Turpentine*, according to the Method of Mr. *Swammerdam*. This dextrous Anatomist has since found the way to do this with Quick-silver, which does it much better than Wax, because the Vessels fill'd with it are not so soon broken as when filled with the former. I continue these Injections, till I find that the *Jugular Veins*, which I have also laid bare, are tinged with it. Then I tie the Veins, to stop the Liquor in the Brain, and view more commodiously the agreeable Ramification of the *Carotides*, and *Vertebral Arteries*, and the *Jugular Veins*, and the Communication of these three sorts of Vessels with one another.

To discover the Distribution of this Liquid in the Vessels of the Brain, I saw the Skull handsomly round; and having separated the *Dura Mater*, which lines it, I take off the Cap which covers the Brain. After which, by the colour'd Injection, I trace the wonderful Distribution of the Vessels; and by the Help of this, I find that the Veins, which empty themselves into the

Longitudinal Sinus, are inſerted from before backwards in Beaſts, and from behind forwards in Men.

Or to diſtinguiſh more eaſily, and with one tranſient Glance of the Eye, the *Arteries* from the *Veins*, I begin with Injections into the *Jugular Vein*, having firſt evacuated the Blood, by pricking it with a Lancet, and tied the *Carotides*; and then I drive the Liquor forcibly with a Syringe, to beat down the *Valves*, which might hinder the Diſtribution.

I tie the *Carotides* in the firſt place; becauſe it would be in vain to let out the Blood in the *Jugular*, if I did not hinder new Blood from being poured in continually by the *Carotides*. I evacuate the Vein, that the Injection may find a more eaſy paſſage, and give a better Tincture. In the laſt place, I begin theſe Injections rather thro' the Vein than the Artery; becauſe, ſince Liquor may paſs from the Artery into the Vein, the Veins would be filled with the ſame Liquor, if I began the Injection thro' the Artery: Whereas on the contrary, ſince the Liquor cannot paſs from the Vein into the Artery, the Vein will be full of the ſyringed Liquor, and not one Drop in the Artery: and even ſhould one make Injections of different Colours, to diſtinguiſh the Artery from the Vein, not one Drop will enter into the Vein, tho' it be formed to receive the Blood from the Artery; becauſe we ſuppoſe it to be filled with the former Injections.

And eſpecially, if this be done with Wax, which hardens immediately, the Syringe invented by Mr. *Swammerdam* (for the common ones will not ſerve) muſt be well heated, and the Injection made near a good Fire, while the Animal is yet alive; that the natural Heat of the Part may ſupply the place of an artificial one, which is procured by keeping the Part in warm Water; but there is no room to foment the Brain in this manner. Therefore it would be better, to take it out of the Skull, if it could be done without breaking the Veſſels of the *Dura Mater*, which adheres cloſe to it; for then they might be heated with warm Water, which would hinder the Wax from congealing ſo ſoon.

Thus the *Arteries* and *Veins* are eaſily diſtinguiſhed by their different Colour; and you will ſee where the

Veins

Veins are inſerted into the *Sinus*. You will ſee at the ſame time, that one *Carotide* has a Communication with the other, and both of them with the *Vertebral Arteries*; ſince the Injection made into one *Carotide* will not only be imparted to the other, but likewiſe to the *Vertebral Arteries*.

According to this Method, you muſt have a care not to cut the *Dura Mater*, till the Brain be taken out of the Skull, and all its Veſſels examined, which are diſperſed thro' the *Meninges*; becauſe this Inciſion cannot be made without cutting ſome one of theſe Veſſels, which ſhedding all the Liquor, would fruſtrate ſuch an Injection. But the *Dura Mater* muſt be carefully ſeparated from the other Bones, as it was in that Part of the Skull which was taken off.

When, in making this Separation, you come to the *Sella Turcica*, and to the *Carotides*, you muſt tie them to prevent the Effuſion of the Liquor in them, and to keep the other Arteries from emptying themſelves. The ſame muſt be done to the *Jugular Veins* and the *Vertebral Arteries*, continuing the Operation till the *Dura Mater* be ſeparated from the Bones which it lines, and all the Nerves are cut, that you may take out the Brain.

Then you may ſee all the Veins and Arteries which water the upper and lower part of the Brain, and run curiouſly thro' it. Then I ſlit the *Dura Mater*, under the *Medulla oblongata*, quite from the Olfactory Nerves to the Beginning of the Spinal Marrow, and ſeparate it gently from the *Pia Mater*, to which it is tied by a Number of ſmall Veſſels, bringing it to the Sides of the Brain, and upwards towards the *Falx*, which muſt be carefully ſeparated from the Brain without tearing any thing. For this purpoſe, you muſt gently dilate the great Fold in which it lies, drawing it one way and another, and cutting at the ſame time all the ſmall Filaments which tie the *Falx*, or joyn both ſides of the Folds together. You muſt continue to do this, till you come to the Arch of the Brain, and then it will be eaſie to turn back the *Falx* together with the *Dura Mater*, which covers the Fore-part of the Brain quite to the *Torcular*; for if you ſhould pull in this place, there would be danger of tearing out the fourth *Sinus*.

The

The Brain being thus ſtript, I do the ſame thing to the Cerebel, turning back the *Dura Mater*, which covers it, quite to the Concourſe of the four *Sinus*'s; and ſeparating carefully, as well the Lateral *Falces* as the Longitudinal one, I raiſe that Membrane to the Right and the Left, gathering it at the Place of the *Torcular*, which I ſeparate intirely from the Bodies which encompaſs it.

Then indeed you ſee the Brain naked; but you only ſee the Outſide of this Manſion of the Soul. For, to contemplate its Inſide, you muſt run through its four Chambers, and ſee what they contain. You muſt by degrees invert the upper part of the Brain, or the fore-Arch, after it is well ſeparated from the Cerebel. By this you diſcover in the firſt place, that part of the *Medulla oblongata*, which lies between the Brain and the Cerebel, embraced by the Annular Proceſſes, on the Edges of which lie the Two Lateral Proceſſes joined by the Middle Proceſs.

If you reverſe the Brain a little farther, having a care of cutting the ſmall Veſſels which tie the upper part to the lower, you will ſee the Teſticles, and the *Nates* or Buttocks. In proceeding to reverſe it, you will come inſenſibly to the Edge of the Anterior Ventricles. There will you ſee two Arches of a Bridge formed by the Arms of the Roof, and ſupported by three Pillars, two of which are on one ſide, and the other in the middle. This laſt is called the Baſis of the Roof, and the two others are the Extremities of its Arms, which are ſupported in the *Medulla oblongata*. Under this Bridge there runs a Torrent of Seroſities, which coming from the third and fourth Ventricle, throws it ſelf into the *Infundibulum*, paſſing firſt under the Bridge of *Variolus*, which is at the Iſſue of the Ventricle, coming from behind forwards.

After this, I blow with a Tube under the Arms of the Roof, and the Anterior Ventricles are very much diſtended. In the mean time I put two Probes under the Arches of the Vault, to raiſe them on both ſides. By means of this you may very well ſee the Inſide of the Ventricles, the two *Plexus Choroides*, which are ſeated between the ſtriate Bodies, and the optick Eminences, leaving the former before towards the anterior Extremity

of

of the Ventricles, and the optick Eminences behind, towards the Posterior Extremity. You see likewise the *Septum lucidum*, in which a slight Incision discovers a small Cavity, which some think to be the Seat of the Soul. There are some Anatomists, who make the Incision on the sides of the *Septum*; but I make it on the Roof, descending till I come to the Cavity, or I blow gently with a Pipe into the Hole I have made.

In passing thus from the *Cerebellum* to the Anterior Ventricles, I follow the Fourth *Sinus* or *Torcular*, and I find it makes a *Plexus* on the *Glandula Pinealis*, to which it cleaves very close; and that forking it self into two Parts, in its progress it makes part of the *Plexus Choroides*.

Then returning to the *Glandula Pinealis*, I separate it, together with the *Medulla oblongata*, to which it is only contiguous, as you may find if you take the pains to cut the Ties.

This Gland is at the Entry of the Third Ventricle, into which I introduce a Probe thro' the Hole call'd the *Anus*, and above *Variolus*'s Bridge, or thro' the Hole called *Vulva*, and above the same Bridge: for these are as it were two Gates which lead into the same Ventricle. The Probe which is introduced goes out beyond the Cerebel, above the *Medulla oblongata*, without hurting the Substance of the Brain; as appears plainly enough, if you open the third and fourth Ventricles, to see if the Probe has not forced a Way, by making a breach thro' this soft Substance.

But the Communication of the third and fourth Ventricle is manifest without opening them, or introducing a Probe, only by blowing with a Tube thro' the *Anus*: for then you will see the fine Contexture, which covers the *Medulla oblongata* between the Brain and the Cerebel, to swell considerably, and you will perceive the Breath beyond the Cerebel, if you put your Hand there; because the Contexture which I mentioned, hinders it from going out between the Testicles and the Cerebel. If you suspect the Subtilty of the Breath might make a Way where Nature has not formed any, make Injections, and you will find the Liquor will come out beyond the Cerebel, above the *Medulla oblongata*.

If

If you blow behind the Cerebel, or make Injections there, forcing towards the third Ventricle, you will ſee the ſame Contexture diſtended; and you will feel the Wind, if you put your Hand before the *Anus* or the *Vulva*; or you will ſee the Liquor, with which you make the Injections, run thro' theſe two Holes.

Laſtly, for the better underſtanding the Extent of this, and ſeeing at the ſame time the Inſide of the Cerebel, I ſeparate it well from the *Medulla oblongata*, by cutting all the Veſſels or Filaments which tie it down. Then inverting the Cerebel forwards, I ſee perfectly the fourth Ventricle, reſembling in its Figure a Pen pointing backwards.

I diſcover at the ſame time the two Ends of the Vermicular Proceſs, the Head and the Tail, which are hid under the Cerebel; and a little beyond the Anterior, I ſee the Place where this Tent is faſtened to the Roof of the Cerebel. One may alſo plainly ſee the Origin of this Tent, by cutting one of the Pillars of the Cerebel, and by reverſing it a little on the Side: but as long as the Parts may be ſeen without Inciſion, I believe it is beſt to omit it.

The Two Pillars of the Roof of the Cerebel, the Regularity of the Furrows, and the Upper Semicircle of the Vermicular Proceſs, are ſeen without any Operation, as ſoon as the *Dura Mater* which covered the Cerebel is removed. But to find the Depth of theſe *Anfractus*, you need only dilate them with the End of the Handle of your Diſſecting-Knife, which muſt be made flat like a *Spatula*, and cut at the ſame time the Filaments which tie together the two Sides of theſe Folds; and you will find, that they penetrate to the Callous Subſtance, as well as in the Brain, on which you muſt make the ſame Operation to follow its Furrows.

All the Exterior Part of the *Medulla oblongata* may be ſeen without any other Operation than what is here deſcribed.

Thus I take to pieces the Machine of the Brain, to view its Form: next, to know its Matter, I let it ſeeth for ſome time in a Pot of Water, with the Spinal Marrow, which I have taken out of its Sheath, till the one

one and the other be half boiled. Then taking them from the Fire, and leaving them to cool, I begin to ſeparate the Filaments of the Spinal Marrow, which is nothing more than a pretty large Bundle of ſmall Nerves, which may be traced by one who is dextrous, to the Brain, and its grey Subſtance where they all end.

At the End of each of theſe Filaments or Nervous Tubes there is a ſmall Gland. This forms the animal Spirit by filtring the moſt ſubtil Part of the Blood; and this ſmall Tube is placed beneath it, to receive this Spirit, and to diſtribute it. Between the ſmall Filaments which compoſe the Brain, there is a ſoft Medullary Subſtance, which chiefly appears in the ſtriate Bodies.

Some of theſe Filaments which compoſe the Spinal Marrow, end in the Brain, and others in the Cerebel. The Superior terminate in the latter, and the Inferior or Middle ones in the former. When you have done dividing the Spinal Marrow, the *Medulla oblongata*, and the Callous Body, you will find theſe Three Bodies are no more than a Collection of theſe Filaments, as well in the Cerebel as the Brain. And becauſe they are larger in the Callous Body than in the *Medulla oblongata*, and their Interſtices are larger, and fuller of a Medullary Subſtance, it muſt not be thought ſtrange, that the *Medulla oblongata* is ſlenderer than the Callous Body, tho' both are no more than a Collection of the ſame Filaments.

I am very much inclined to believe (pardon the Digreſſion) that the Seroſities which run into the Ventricles are ſeparated through this Medullary Subſtance: for it is not probable there ſhould be the ſame Filtre in the Brain for Spirit and Phlegm; ſince the Rectification of the Spirit conſiſts only in the ſeparation of theſe Two Subſtances.

Laſtly, in purſuing theſe Filaments to their Inſertion in the Glands of the cinereous Part, one may obſerve the wonderful Ramification they make in the Cerebel. You will ſee it ſtill better, if you cut the Cerebel clear through from before backward with a very ſharp Razor.

This Inciſion is not to be made before you examine that fine Contexture which covers the *Medulla oblongata* between the Brain and the Cerebel; becauſe being faſten-

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ed to the Roof of this, it is quite torn, and you cannot ſee its Origin.

When you have traced all theſe Filaments to the ſtriate Bodies, you will find them thicker, and ſeparated by larger Medullary Interſtices, which form theſe Furrows or Channelings, whence they take their Name. You will more readily and better diſcover theſe, by making a very ſuperficial Inciſion upon one of theſe Eminences, and ſcraping away with the back of the Knife the aſh-coloured Subſtance which hides them. I will not ſtand to confute the Opinion of thoſe who ſay theſe Channels are artificial; becauſe if you do not make your Inciſion after a certain manner, they do not appear: for the ſame Reaſon would prove, that the Structure of every Part is Artificial too; becauſe it would not appear without laying it open after a certain manner.

After having traced the Nervous Filaments quite to the aſh-colour'd Subſtance of the Brain, you will ſee it is nothing more than a Collection of a certain number of Glands rang'd orderly by one another.

This is the way I take to diſcover the Form and Matter of the Brain. It is a little tedious, I confeſs, and requires a great deal of Care; but it is alſo very good, and gives great ſatisfaction.

After a profound Admiration of the Divine Structure of the Brain, I am aſſur'd, you will not be of the Opinion of the Philoſopher, who aſcribes no other Uſe to it but to cool the Heart. For beſides the great Diſtance, which muſt render it incapable of ſuch an Office (eſpecially according to the Opinion of the Philoſopher who was ignorant of the Circulation) the moſt ſubtil Blood, which is raiſed to the Head, the Volatile Salts which are ſublim'd in abundance as to the Head of a Natural Alembick, the great number of Veſſels from which it receives a conſtant Heat like a *Balneum Mariæ*, and the great quantity of Spirits with which it abounds, induce me to think the Brain is more hot than cold.

It ſeems to be the principal Organ of all animal Actions. Tho' a certain Woman of *Paris* felt her Child

Child ſtir briskly in her Womb, which was born without a Brain. For there is ground to believe, it might have theſe Motions, before the Brain was diſſolved by any Cauſtick Liquor which had corroded and blacken'd the internal Surface of the Skull, and before it ran thro' a great Hole of the *Occiput*, which this violent Corroſive had probably penetrated, leaving a black Spot where it paſſed.

A TREATISE OF

Straps, Swathing-Bands, Bandages, Bolsters, Splints, Tents, Veſicatories, Setons, Cauteries, Leeches, Cupping-Glaſſes, and Phlebotomy.

CHAP. XIX.

Of Straps, Swathing-Bands, Bandages, and Bolſters.

WHAT is a Strap?

It is a kind of Band commonly made uſe of for the Extenſion of Members, in the reducing of Fractures and Luxations; or elſe in binding Patients, when it is neceſſary to confine them, for the more ſecure performing of ſome painful Operation. Theſe ſorts of Ligatures have different Names, according to their ſeveral Uſes, and often bear that of their Inventor.

What is the Matter whereof theſe Straps are compos'd?

They may be of divers Sorts; but are uſually made of Silk, Wool, or Leather.

What is a Swathing-Band?

It is a long and broad Band, that ſerves to wrap up and contain any Part, with the Surgeons Dreſſings or Preparatives.

Of what matter are theſe Swathing-Bands made?

They are made at preſent of Linen-Cloth; but in the time of *Hippocrates*, were made of Leather or Woollen-Stuff.

How many ſorts of Swathing-Bands are there in general?

There are two Sorts, *viz.* the Simple, and the Compound: the former are thoſe that are ſmooth, having only two Ends; and the latter are thoſe which are trimm'd with Wool, Cotton, or Felt, or that have many Heads, that is to ſay, Ends faſtened or cut in divers Places, according as different Occaſions require.

What are the Conditions requiſite in the Linen-Cloth whereof the Swathing-Bands are made?

It muſt be clean, and half worn out, not having any manner of Hem or Liſt.

What are the Names of the different Swathing-Bands?

They are innumerable, but the greater Part of them take their Denominations from their Figure or Shape; as the Long, Streight, Triangular, and thoſe which have many Heads, or are trimm'd.

What is a Bandage?

It is the Application of a Swath, Roller, or Fillet to any Part.

How many Sorts of Bandages are there?

As many as there are different Parts to be bound; ſome of them being Simple, and others Compound. The former are thoſe that are made with an uniform Band; as the Circular, that with Edgings, the Spiral, the Revers'd, and divers other Sorts. The Compound are thoſe that conſiſt of many Bands ſet one upon another, or ſew'd together; or elſe thoſe that have many Heads. They have alſo particular Names taken from the Inventors of them, or from their Effect; as *Expulſive* Bandages to drive back, *Attractive* to draw forward, *Contentive* to contain, *Retentive* to reſtrain, *Divulſive* to remove, *Agglutinative* to rejoin, *&c.*

There are others whereto certain peculiar Names are appropriated, and which are deſigned for certain things: as *Bridles* for the lower Jaw, *Slings* for the Chin, the back

back Part of the Head, Shoulder, and *Perinæum*; *Scapularies* for the Body, after the manner of the *Scapularies* of Monks; *Truſſes* for Ruptures; *Stirrups* for the Ancle-bones of the Feet, in letting Blood, and upon other Occaſions. Laſtly, there are an infinite Number of Bandages, the Structure whereof is learnt by Practice, and obſerving the Methods of able Surgeons, who invent them daily, according to their ſeveral Manners; and only the firſt *Ideas* of theſe can be taken in reading Authors that have treated of them.

What are the general Conditions to be obſerv'd in the Bandages?

There are many, *viz.* 1. Care muſt be taken that the Bands be roll'd firm, and that they be not too ſtrait, nor too looſe. 2. They are to be undone from time to time in Fractures; they muſt alſo be taken away every three or four Days, to be re-fitted. 3. They muſt be neatly and conveniently roll'd, that the Patient may not be uneaſy or diſquieted.

What ought to be obſerv'd in fitting the Bolſters?

Care muſt be taken to make them even, ſoft, and proportionable to the bigneſs of the Part affected; to trim them moſt in the uneven places, that the Bands may be better roll'd over them, and to keep them continually moiſtened with ſome Liquor proper for the Diſeaſe, as well as the Bands.

In treating of every Diſeaſe, we ſhall ſhew the way of making the Bandage proper thereto.

A TREATISE OF Chirurgical Diſeaſes.

CHAP. I.

Of Tumours in general, Abſceſſes or Impoſtumes, Breakings out, Puſtules, and Tubercules.

WHAT is a Tumour?

A Tumour is a Riſing or Swelling rais'd in ſome Part of the Body by a ſettling of Humours.

How is this ſettling of Humours produc'd?

Two ſeveral ways, *viz.* by *Fluxion*, and by *Congeſtion?*

What is the ſettling by Fluxion?

It is that which raiſeth a Tumour all at once, or in a very little ſpace of time, by the Fluidity of the Matter.

What is the ſettling by Congeſtion?

It is that which produceth the Tumour by little and little, and almoſt inſenſibly, by reaſon of the ſlow Progreſs and Thickneſs of the Matter.

Which are the moſt dangerous Tumours, thoſe that ariſe from Fluxion, or thoſe that derive their Original from Congeſtion?

Thoſe that proceed from Congeſtion; becauſe their thick and groſs Matter always renders them more obſtinate, and difficult to be cur'd.

Whence do the differences of Tumours proceed?

They are taken, *firſt*, from the natural Humours, *Simple*, *Mix'd*, and *Alter'd*: *Simple*, as the *Phlegmon*, which is made of Blood, and the *Eryſipelas* of Choler: *Mix'd*, as the *Eryſipelatous Phlegmon*, which conſiſts of Blood mingled with a Portion of Choler; or the *Phlegmonous Eryſipelas*, which proceeds from Choler intermix'd with a Portion of Blood: *Alter'd*, as the *Meliceris*, which is compos'd of many Humours, that cannot be any longer diſtinguiſh'd by reaſon of their too great Alteration. Secondly, the difference of Tumours is taken from their likeneſs to ſome other thing, as the *Boil*, the *Carbuncle*, and the *Talpa*. *Thirdly*, from the Parts wherein they are ſituated; as the Opthalmy in the Eyes, and the Quinſie in the Throat. *Fourthly*, from the Diſeaſe that cauſeth them, as Venereal and Peſtilential Buboes. *Fifthly*, from certain Qualities found in ſome, and not in others; as the *Encyſted* Tumours, which have their Matter inclos'd within *Cyſts* or Membranes; and ſo of many others.

How many kinds of Tumours are there that comprehend at once all the particular Species?

There are four in Number *viz.* the *Natural Tumours*, the *Encyſted*, the *Critical*, and the *Malignant*.

What are Natural Tumours?

They are thoſe that are made of one of the four Humours contain'd in the Maſs of Blood, or elſe of many at once intermix'd together.

What are the four Humours contain'd in the Maſs of Blood?

They are Blood, Choler, Phlegm, and Melancholy; every one whereof produceth its Particular Tumour: Thus the Blood produces the *Phlegmon*, Choler the *Eryſipelas*, Phlegm the *Oedema*, and Melancholy the *Schirrus*. The Mixture of theſe is in like manner the Cauſe of the *Eryſipelatous Phlegmon*, the *Oedematous Phlegmon* or *Phlegmonous Eryſipelas*, and the *Phlegmonous Oedema*; according to the quality of the Humours which

are

are predominant, from whence the ſeveral Tumours take their Names.

What are the Encyſted *Tumours?*

They are thoſe, the Matter whereof is contain'd in certain *Cyſts* or membranous Bags; as the *Meliceris*, and the *Struma* or Kings evil.

What are critical Tumours?

They are thoſe that appear all at once in acute Diſeaſes, and terminate them with good or bad Succeſs, as the *Parotides.*

What are the Malignant Tumours?

They are thoſe that are always accompany'd with extraordinary and dreadful Symptoms, and whoſe Conſequences are alſo very dangerous; as the Carbuncle in the Plague.

What are Impoſtumes or Abſceſſes, Breakings out, and Puſtules.

Indeed it may be affirm'd, that all theſe kinds of Tumours ſcarce differ one from another, except in their ſize or bigneſs. Nevertheleſs, to ſpeak properly, by the Names of Impoſtumes or Abſceſſes are underſtood groſs Tumours that are ſuppurable, or may be diſſolv'd; and by thoſe of Breakings out, and Puſtules, only ſimple Wheals, or ſmall Tumours, that appear in great Number, and which frequently do not come to Suppuration; ſome of them conſiſting of very few Humours, and others altogether of a dry Matter.

What difference is there between a Tumour and an Impoſtume or Abſceſs?

They differ in this Particular, that all Tumours are not Impoſtumes nor Abſceſſes; but there is no Impoſtume, nor Abſceſs, that is not a Tumour: as for Example, Wens and *Ganglions* are Tumours, yet are not Abſceſſes, nor Impoſtumes; whereas theſe laſt are always Tumours, in regard they cauſe Bunches and Elevations.

CHAP. II.

Of the general Method to be observed in the curing of Tumours.

WHAT ought a Surgeon chiefly to observe in Tumours, before he undertakes their Cure?

He ought to know three things, *viz.* 1. The Nature or Quality of the Tumour. 2. The time of its Formation. And 3. Its Situation. The Quality of the Tumour is to be known, because the Natural one is otherwise handled than that which is *Encysted, Critical,* or *Malignant.* As for the time of its Formation, it is fourfold, *viz.* the Beginning, Increase, State, and Declination, wherein altogether different Remedies are to be apply'd. The Situation of the Tumour must be observ'd, because the Dressing and Opening of it ought to be as exact as is possible, to avoid the meeting with an Artery or neighbouring Tendon.

How many ways are all the Tumours that are curable terminated?

They are terminated after two manners, *viz.* either by dissolving them, or by Suppuration.

Are not the Schirrus *and the* Esthiomenus *or Gangrene, two means that sometimes serve to terminate and cure Impostumes?*

Yes; but it is done imperfectly, in regard that a Tumour or Impostume cannot be said to be absolutely cur'd, as long as there remains any thing of the original Malady, as it happens in the *Schirrus,* where the Matter is hardned by an imperfect dissolving of it, or when the Impostume degenerates into a greater and more dangerous Distemper, as it appears in the *Esthiomenus* or *Gangrene* that succeeds it.

Which is the most effectual means of curing Impostumes, that of dissolving, or that of bringing them to Suppuration?

That of dissolving them is without doubt the most successful, and that which ought to be us'd as much as is

is possible. Nevertheless, some Cases are to be excepted, wherein the Tumours or Abscesses are Critical, or Malignant: for then the way of Suppuration is not only preferable, but must also be procur'd by all sorts of means, even by opening; which may be done upon this Occasion, without waiting for their perfect Maturity.

What are the Precautions whereto a Surgeon ought to have regard, before he undertake the opening of Tumours?

He must take care to avoid cutting the Fibres of the Muscles, and in great Abscesses discharging the corrupt Matter all at once, to prevent the Patients falling into a Swoon.

Ought the opening of Tumours always to be made longitudinally, and according to the direct Course of the Fibres?

No, it is sometimes necessary to open them with a crucial Incision, when they are large, or when a *Cystis* or membranous Vehicle is to be extirpated.

How many sorts of Matter are there that issue forth in the Suppuration of Tumours?

There are four Sorts, *viz.* *Pus, Ichor, Sanies,* and *Virus.*

What is Pus?

It is a thick Matter, and white as Milk.

What is Ichor?

It is a thick Matter like the *Pus,* but of divers Colours.

What is Sanies?

It is a watry Matter that riseth up in Ulcers, almost after the same manner as the Sap in Trees.

What is Virus?

It is a kind of watry Matter, being whiteish, yellowish, and greenish at the same time, which issueth out of Ulcers, very much stinking, and is indu'd with corrosive and malignant Qualities.

How many general Causes are there of Tumours?

There are three, *viz.* The Primitive, the Antecedent, and the Conjunct. The Primitive is that which gives Occasion to the Tumour; as for Example, a Fall, or a Blow receiv'd. The Antecedent is that which supplies it with Matter, such is the Mass of Blood that thickens and maintains the *Phlegmon.* Lastly, the

Conjunct

Conjunct Cauſe is the overflowing Blood or Matter, which immediately forms the Tumour.

What regard ought to be had to theſe three ſorts of Cauſes in the Cure?

The Primitive Cauſe may be prevented by avoiding Falls, Blows, or other Hurts. The Antecedent, by diminiſhing the Plethory of the Blood, and cooling the whole Maſs by Phlebotomy. The Conjunct Cauſe, which is the overflowing of the Blood, may be alſo remov'd in diſperſing it by diſſolving, or elſe in diſcharging it by Suppuration.

What is a Criſis?

It is a ſudden ſettling of Humours, which happens in Diſeaſes, whereby they are uſually terminated.

How are theſe critical Settlings effected?

By the ſtrength of Nature, which either expels the peccant Humours by the *Anus*, *Bladder*, &c. or carries them into the Habit of the Body: for in the former ſhe cauſeth Fluxes of Humours, Urine, and Blood; as in the other, ſhe excites Sweatings, Tumours, and even a Gangrene it ſelf.

In what parts do the Critical Tumours uſually ariſe?

In the *Glands*, which the Antients call'd the *Emunctories* of the Brain, Heart, and Liver: for they gave the Name of *Emunctories* of the Brain to the thick *Glands* which lie under the Ears; that of the *Emunctories* of the Heart, to thoſe that are under the Arm-pits; and that of the *Emunctories* of the Liver, to thoſe under the Groin. Now Malignant Tumours may ariſe in all theſe Parts, but the Venereal happen only in the Groin.

CHAP.

CHAP. III.

Of Natural Tumours.

ARTICLE I.

Of the Phlegmon *and its Dependencies.*

WHAT is a Phlegmon?

It is a red Tumour occasion'd by the Blood diffus'd in some Part, wherein it causeth Extension, Pain, and Heat, with Pulsation.

Are Aneurisms *and* Varices, *which are Tumours made by the Blood, to be reckon'd among the* Phlegmons?

No; because the Blood that forms *Aneurisms* and *Varices*, is not extravasated, nor accompany'd with Inflammation, but only a Tumour of Blood proceeding from the Dilatation of the Arteries and Veins.

May Echymoses *or Contusions consisting of extravasated Blood be esteem'd as* Phlegmons?

By no means, in regard that it is not sufficient that the Blood be extravasated for the producing of a *Phlegmon*; it must also cause Pain, Heat, and a beating with Inflammation, which is not to be found in *Echymoses*, except in great ones, after they have been neglected for a long time; where the corrupted Blood ought to be let out immediately, to prevent Inflammation, over-much Suppuration, and many other ill Consequences.

Is the Phlegmon *always compos'd of pure Blood?*

No, it may happen sometimes to partake of Choler, Phlegm, or Melancholy; on which account, it is nam'd an *Erysipelatous*, *Oedematous*, or *Schirrous Phlegmon*,

Phlegmon, always retaining the Name of the predominant Humour, which is the Blood; and ſo of the others.

REMEDIES.

What are the Remedies proper for a Phlegmon?

They are of two Sorts, *viz.* General and Particular: the former having regard to the antecedent Cauſe; and the other to the Conjunct. The *Phlegmon* is cur'd in its antecedent Cauſe, by Phlebotomy or letting Blood, by Diet, and ſometimes by Purgations; by which means the Plethory, Heat, and Alteration of the Blood is diminiſh'd. But Fomentations, Cataplaſms, and Plaiſters facilitate the Cure in the conjunct Cauſe, either by diſſolving the Tumour, or bringing it to Suppuration.

At what time is the opening of a Vein neceſſary?

In the beginning and increaſe.

What are the Remedies proper to be us'd immediately upon the firſt appearing of the Tumour?

They are Reſolvents and Anodynes; as Chervil boil'd in Whey, to which add a little Saffron to waſh the Tumour, laying on Linnen-Cloths ſoak'd in this Decoction, removing them often, and applying the Chervil with them.

Or elſe take the Urine of a healthful Perſon, wherein is boil'd an Ounce of Sulphur for each Glaſs, and bathe the Tumour with it.

The Sperm of Frogs is alſo made uſe of to very good purpoſe, either alone, or with Lime-water and Soap mixt together; or Oak-Leaves and Plantane beaten ſmall, and apply'd. But Care muſt be more eſpecially taken to avoid cooling Medicines, Oils, and Greaſe, which are pernicious in great Inflammations.

What ought to be done in the increaſe of the Tumour and Pain?

They are to be aſſuag'd by mollifying and diſſolving Medicines; to which end, a Cataplaſm or Pultis is to be made with the Leaves of Elder, Wall-wort or Dwarf-Elder, Mallows, Violet-Plants, Camomile, and Melilot; whereto is added beaten Line-ſeed; cauſing the whole Maſs to be boil'd in Whey, and allowing to every Pint, or thereabouts, the Yolk of an

Egg, twenty Grains of Saffron, a quarter of a Pound of Honey, and the Crumb of White-bread, till it comes to a neceſſary Conſiſtence. Or elſe take Cow's-Dung inſtead of the abovementioned Herbs, and mix with it all the other Ingredients, to make a Cataplaſm, which muſt be renew'd at leaſt every twelve Hours.

What is to be done in this State?

If the Tumour cannot be diſſolv'd (as was intended) it muſt be brought to Suppuration by Cataplaſms, conſiſting of theſe Ingredients, *viz.* Garlick, Roots of White Lilies roaſted under Embers, Milk, and *Unguentum Baſilicon.*

Or elſe take only a Glaſs of Milk, in which an Ounce of Soap is diſſolv'd, to wet the Linen apply'd to the Tumour; and let it be often reiterated: otherwiſe make uſe of Sorrel boil'd with Freſh Butter, and a little Leaven or Yeaſt. The Plaiſter *Diaſulphuris* is alſo moſt excellent, either alone, or if you pleaſe, mixt with *Diachylon* and *Baſilicon.*

What is to be done in the Declination after the Suppuration?

The Ulcer muſt be at firſt gently dry'd with a Plaiſter of *Diaſulphuris* or *Diachylon*, and afterward that of *Diapalma* may be us'd, and Ceruſe or White-Lead.

What Method is to be obſerv'd in caſe there be any diſpoſition toward a Gangrene?

It is requiſite during the great Inflammation to make uſe of good Vinegar, in an Ounce whereof is diſſolv'd a Dram of White Vitriol, with as much *Sal Armoniack*, to bathe the Tumour: Or elſe take the Tincture of Myrrh and Aloes, with a little *Unguentum Ægyptiacum*, and afterward make a Digeſtive of Turpentine, the Yolk of an Egg, and Honey, mingling it with a little Spirit of Wine, or Brandy, if there remains any Putrefaction or Rottenneſs.

Remedies for Aneuriſms *and* Varices.

What is to be done in order to cure an Aneuriſm?

When it is little, as that which happens after an Operation of Phlebotomy, or letting Blood, ill perform'd, it may be ſufficient to lay upon the affected Part a thin Plate

Plate of Lead, or elſe a Piece of Money or Counter wrapt up in a Bolſter, and to bind it on very ſtrait: but a Piece of Paper chew'd is much better for that purpoſe.

If the *Aneuriſm* be conſiderable, an aſtringent Plaiſter may be us'd, ſuch as the following.

Take *Bolus*, Dragon's Blood, Frankincenſe, Aloes, and *Hypocyſtis*, of each a Dram; mingle the whole with two beaten Eggs, and add Wax to give it the conſiſtence of a Plaiſter; which may be apply'd alone, or mixt with an equal Portion of *Emplaſtrum contra Rupturam*, always making a ſmall Bandage to keep it on. *Emplaſtrum de Cicuta* hath alſo a wonderful Effect.

When the *Aneuriſm* is exceſſive, it is abſolutely neceſſary to proceed to a Manual Operation, the manner whereof ſhall be ſhewn hereafter in the Treatiſe of great Operations.

What is requiſite to be done in the Varices?

Varices are not generally dangerous, but even conduce to the Preſervation of Health; nevertheleſs, if they become troubleſome by reaſon of their greatneſs, and the Pains that accompany them, they may be mollify'd with the following Remedy.

Take the Mucilages of the Seeds of *Pſyllium* and Line, of each two Ounces; of *Populeum* two Ounces; *Oleum Lumbricorum & Hyperici*, of each one Ounce; and of the Meal of Wheat one Ounce, adding Wax to make the Conſiſtence of a Plaiſter: part of which ſpred upon Linen or Leather, muſt be apply'd to the *Varix*, and bound on with a ſmall Band.

If the Blood abound too much, it may be diſcharg'd by the Application of Leeches, or by a Puncture made with a Lancet: afterward lay upon the Part a piece of Lead ſew'd up in a Cloth, and let it be kept cloſe with a proper Bandage. Otherwiſe you may make uſe of an Aſtringent, ſuch as this.

Take a Pomegranate, cut it in pieces, and boil it with as much Salt as may be taken up with the tip of your Fingers, in a Gallon of ſtrong Vinegar; then dip a Spunge in this Vinegar, apply it to the *Varix*, bind it on, and continue the uſe of it twice a Day for a Month together.

Reme-

Remedies for Echymoſes, *Contuſions or Bruiſes.*

How are Echymoſes *to be treated?*

All poſſible means muſt be us'd to diſſolve 'em, by laying Slices of raw Beef upon the Part, renewing them very often, or applying Linen Rags dipt in Spirit of Wine impregnated with Saffron.

They may be alſo diſſolv'd with the Roots of Briony raſp'd and apply'd thereto, or elſe with Plaiſter or Mortar, Soot, Oil of Olives, and *Unguentum Divinum*; a Mixture whereof being made, is to be put between two Rags, and laid upon the Tumour or Swelling.

If the *Echymoſis* happens in a Nervous Part, Balſam of *Peru* may be us'd, or, for want thereof, *Oleum Lumbricorum & Hyperici*, with luke-warm Wine, with which the Compreſſes muſt be ſoak'd to be laid upon it.

When the *Echymoſis* is great, and much Blood is diffus'd between the Skin and the Fleſh, the ſafeſt way is to make an Opening to let it out, leſt a too plentiful and dangerous Suppuration ſhould enſue, or even a Gangrene it ſelf. However, a Surgeon ought to proceed in the curing of an *Echymoſis* in the Face with great Circumſpection, which muſt always be prepar'd for Inciſion.

Of Phlegmonous Tumours or Impoſtumes, and of Remedies proper for them.

What are the Tumours or Impoſtumes that partake of a Phlegmon?

They are the *Bubo*, Carbuncle, *Anthrax*, *Furunculus*, *Phygeton*, *Phyma*, *Panaritium* or *Paronychia*, Burn, Gangrene, and Kibe or Chilblain.

What is a Bubo?

A *Bubo* is a Tumour which ariſeth in the Groin, being accompany'd with Heat, Pain, Hardneſs, and ſometimes a Fever.

What is a Carbuncle?

A Carbuncle is a hard Swelling, red, burning, and inſeparable from a Fever: it is cover'd with a black Cruſt or Scab, that afterwards falls off at the Suppuration, leaving a deep and dangerous Ulcer, and which ſometimes does not ſuppurate at all.

What is an Anthrax?

The *Anthrax* is very near the ſame thing as the Carbuncle, only with this difference, that the latter always appears in the Glandulous Parts, and the *Anthrax* every where elſe.

What is a Furunculus?

It is a kind of Boil, or benign Carbuncle, which ſomewhat reſembles the Head of a Nail, and is on that account call'd *Clou* by the *French*, cauſing Pains, as if a Nail where driven into the Fleſh.

What is a Phygeton?

The *Phygeton* is a ſmall, red, and inflam'd Extuberance, ſituated in the Milliary Glands of the Skin, where it cauſeth a pricking Pain, without Suppuration.

What is a Phyma?

The *Phyma* appears after the ſame manner as the *Phygeton*, and ſuppurates.

What are the Remedies proper for all theſe Sorts of Phlegmonous Tumours and Impoſtumes?

They are Cataplaſms and Plaiſters, Anodyne, Emollient, Reſolvent, and Suppurative, which are us'd proportionably as in the *Phlegmons*.

What is a Gangrene, Sphacelus, *or* Eſthiomenus?

The *Gangrene* and *Sphacelus* ſignifie the ſame thing, nevertheleſs are commonly diſtinguiſh'd: the former being a Mortification begun; and the *Sphacelus* an intire or perfect Mortification, call'd alſo *Necroſis* and *Sideratio*. An *Eſthiomenus* is a Diſpoſition to Mortification, diſcover'd by the ſoftneſs of the Part, and its livid colour; and a Gangrene is defin'd to be a Mortification of a Part, occaſion'd by the Interception of the Spirits, and the Privation of the natural heat.

What are the Cauſes of a Gangrene in general?

Every thing that hinders the natural Heat from exerting it ſelf in a Part; as ſtrong Ligatures, aſtringent or reſolvent Medicines, not conveniently us'd in great Inflammations, a violent Hæmorrhage, or Old Age, whereby the Spirits

Spirits are exhauſted; the bitings of Mad Dogs, exceſſive Cold, &c.

By what Signs is the Gangrene known?

It is diſcover'd by the livid Colour of the Skin, which departs from the Fleſh, the ſoftneſs, coldneſs, and inſenſibility of the Part; and ſometimes by its dryneſs and blackneſs, from whence exhales a cadaverous Stench, with *Sanies* iſſuing forth after Punctures or Scarifications made therein. Laſtly, a Gangrene is perceiv'd by the cold Sweats, Swoonings, *Syncopes*, and *Deliriums* that invade the Patient, and which are all the Fore-runners of approaching Death.

Is a Gangrene only found in the Fleſh, and ſoft Parts of the Body?

It happens alſo in the Bones, and is then call'd *Caries?*

How is this Caries *or Gangrene of the Bone diſcover'd, when it lies hid under the Fleſh?*

It is known by the black Colour of the neighbouring Fleſh, the ſtink of the *Sanies* that comes away, the intolerable Pains felt thereabouts, which are fix'd and continual, before the Impoſtume and Ulcer appear; and when the Ulcer is made, a kind of roughneſs may be perceiv'd in the Bone.

REMEDIES.

What are the Remedies proper for a Gangrene?

They are thoſe that take away the mortified and corrupt Parts, and recall the natural Heat: both which Indications are exactly anſwer'd in the Extirpation of what is already corrupted, with the Knife; and the Reſtauration of the natural Heat by the following Remedies.

Take an Ounce of good Vinegar, ſteeping therein a Dram of White Vitriol, with as much *Sal Armoniack*: Let it be us'd in bathing the Part; and apply thereto Pledgets well ſoak'd in the ſame Liquor: This Remedy is convenient in the firſt Diſpoſition toward a Gangrene. Or, if you pleaſe, you may make uſe of the Yellow Water, which is made with corroſive Sublimate and Lime-Water; taking, for Example, half a Dram

of corroſive Sublimate to be infus'd in a Pint of Lime-Water.

But a Tincture of Myrrh and Aloes is more efficacious, wherein *Unguentum Ægyptiacum* is ſteep'd; or elſe Lime-Water kept for that purpoſe, in which have been boil'd two Ounces of Sulphur or Brimſtone, with two Drams of *Mercurius Dulcis*; adding four Ounces of Spirit of Wine. This makes an excellent *Phagedænick* Water, with which the Part may be bath'd, and the Pledgets ſoak'd.

If the Gangrene paſſeth to the Bone, the Ulcer muſt be immediately cleans'd with Brandy, and *Euphorbium* afterward put into it, laying alſo ſome upon the Pledgets, and abſtaining from all ſorts of oily and greaſie Medicines. But if theſe Remedies prove unprofitable, recourſe is then to be had to the Knife, Fire, or Amputation; the manner of performing which ſeveral Operations, is explain'd hereafter.

What are Kibes or Chilblains?

They are painful Tumours, which are often accompany'd with Inflammation; they happen more eſpecially in the Nervous and outward Parts, as the Heel, and are ſo much the more ſenſibly felt, as the Air and Cold are more ſharp and vehement.

What is to be done in Order to cure theſe Kibes or Chilblains?

The Heel or affected Part muſt be waſh'd and dipt in Wine boil'd with Allum and Salt, whereof a Cataplaſm may be afterward made, by adding Meal of Rye, Honey, and Brimſtone. The Juice of a hot Turnip apply'd, with *Unguentum Roſatum*, is alſo very good, or *Petroleum* alone.

What is a Panaritium?

Panaritium or *Paronychia*, is a Tumour which generally ariſeth in the Extremity of the Fingers, at the Root of the Nails: It is red, and accompany'd with very great Pain, even ſo exquiſite, that the whole Arm is ſenſible thereof, inſomuch that a Fever ſometimes inſues, and a Gangrene, the Humour being contain'd between the Bone and the *Perioſteum*, that little Membrane with which it is immediately inveſted.

What Remedies are convenient for the curing a Panaritium?

Anodyne

Anodyne Cataplasms are to be first applied; that is to say, such as serve to asswage excessive Pain, as that which is compos'd of Milk, Line-seeds beaten, large Figs, the Yolk of an Egg, Saffron, Hony, and *Oleum Lumbricorum*, with the Crumb of White-Bread. Afterward you may endeavour to dissolve it, by applying Oil of Almonds, *Saccharum Saturni*, and Ear-Wax, or else Balsam of Sulphur. The *Emplastrum de Mucilaginibus* and *Diasulphuris* dissolv'd in Wine, is also a most excellent Resolvent and Anodyne.

If it be requisite to bring this Humour to Suppuration, the Roots of white Lilies roasted under Embers may be added to the preceding Cataplasm; or else a new Cataplasm may be made with Sorrel boil'd, fresh Butter, and a little Leaven.

What is a Burn?

A Burn is an Impression of Fire made upon a Part, wherein remains a great deal of Heat, with Blisters full of *Serosities*, or perhaps an *Escarr*, according as the Fire hath taken more or less Effect.

What are the Remedies proper for a Burn?

A Burn is cur'd by the speedy Application of fresh Clay or Earth reiterated many times successively; by that of Onions pounded in a Mortar, *Unguentum Rosatum*, and *Populeum*, mixt with the Yolk of an Egg and unslack'd Lime; Cray-Fishes or Crabs pounded alive in a Leaden Mortar; and a great number of other Things.

If the Burn be in the Face, you may more especially take the Mucilages of the Seeds of Quinces and *Psyllium*, and Frog's Sperm, of each an equal Quantity, adding to every four Ounces twenty Grains of *Saccharum Saturni*. This Composition may be spred on the Part with a Feather, and cover'd with fine brown Paper. It is an admirable and approv'd Receipt.

If the Burn had made an Escarr or Crust, it may be remov'd with fresh Butter spred upon a Colewort or Cabbage-Leaf, and apply'd hot. But in case the Crust be too hard, and doth not fall off, it must be open'd, to give Passage to the *Pus* or corrupt Matter, the stay of which would occasion a deep Ulcer underneath. The same Method is to be observ'd in the Pustules or Blisters, two days after they are rais'd, applying also the Ointment of Quick-Lime, Oil of Roses, and Yolk of Eggs.

ARTICLE II.

Of the Eryſipelas *and its Dependencies.*

WHAT is an Eryſipelas?

An *Eryſipelas*, commonly call'd St. *Anthony's Fire*, is a ſmall Elevation produc'd by a Flux of Choler diſpers'd and running between the Skin and the Fleſh. It is known by its yellowiſh Colour, great Heat, and Prickings.

REMEDIES.

What are the Remedies proper for an Eryſipelas?

An *Eryſipelas* that ariſeth in the Head and Breaſt is not without Danger, and the Cure of it ought to be undertaken with great Care, in the Application as well of internal as external Remedies. For it is requiſite to take inwardly a Doſe of Diaphoretick *Antimony*, Crabs-Eyes, Egg-ſhells, Powder of Vipers, and other Medicines; as alſo Potions that have the like Virtues, ſuch as the following; Take Four Ounces of Elder-Flower-Water, adding thereto a Scruple of the Volatile Salt of Vipers, or of Harts-Horn, with one Ounce of Syrup of red Poppies.

Phlebotomy or Blood-letting hath no place here, unleſs there be a great Plethory; but frequent Clyſters are not to be rejected, *viz.* ſuch as are made of Whey, Chervil, Succory, and Violet-Plants, adding a Dram of mineral Cryſtal diſſolv'd with two Ounces of Honey of Violets.

As for outward Applications, Linen Rags dipp'd in the Spirit of Wine impregnated with Camphire and Saffron, are to be laid upon the Tumour, and renew'd as faſt as they are dry'd. An equal Quantity of Chalk and Myrrh beaten to Powder, may alſo be ſtrew'd upa Sheet of Cap-Paper ſpred with Honey, and apply'd to the Part.

If the Heat and Pain grow exceſſive, take half a Dram of *Saccharum Saturni*, Twenty Grains of Camphire, as much *Opium*, with two Drams of red Myrrh: Infuſe theſe in a Gallon of White-wine; let this Liquor be kept to ſoak the Cloths that are laid upon the *Eryſipelas*, which muſt be often renew'd. But to dreſs the Face, a Canvaſs Cloth may be us'd, which hath been dipp'd in a Medicine prepar'd with a Gallon of Whey, Two Yolks of Eggs, and a Dram of Saffron.

Moreover, amidſt all theſe Remedies, it is neceſſary to oblige the Patient to keep to a good Diet, and to preſcribe for his Ordinary Drink a Ptiſan made of Harts-Horn, the Tops of the leſſer Centaury, Pippins cut in Slices with their Skins, and Liquoriſh; a little good Wine may be alſo allow'd with the Advice of the Phyſician.

Of Eryſipelatous *Tumours or Impoſtumes, and their Remedies.*

What are the Tumours or Impoſtumes that partake of the Nature of an Eryſipelas?

They are the dry and the moiſt *Herpes*: the former being that which is call'd the *Tetter* or *Ring-worm*; and the other a kind of yellow Bladders, Puſtules, or Wheals, that cauſe itching, and raiſe little corroding Ulcers in the Skin: to theſe may be added divers ſorts of Scabs and Itch.

The Remedies preſcrib'd for the *Eryſipelas* may be us'd for both theſe kinds of *Herpes*; as alſo Lotions for Bathing Liqnors made of Lime-Water and a Decoction of Wormwood and *Sal Armoniack*, allowing half a Dram to four Ounces of Liquor. Or elſe take half a Dram of *Sal Saturni*, and put into a Glaſs of the Decoction of Fumitory or Chervil. You may alſo make uſe of the Oil of Tartar *per deliquium*, to make a Liniment, either alone, or mingled with the above-mention'd Decoctions.

ARTICLE III.

Of the Oedema.

WHAT is the Oedema?

It is a white, ſoft, Tumour, with very little ſenſe of Pain, which ariſeth from the Settling of a pituitous Humour.

What are the Remedies proper for an Oedema?

They are Fomentations, Cataplaſms, Liniments, and Plaiſters.

The Fomentations are made with Bundles of Wall-wort or Dwarf-Elder, thrown into a hot Oven after the Bread is bak'd, and ſprinkled with Wine. Afterward being taken out ſmoaking they are unty'd, open'd, and wrapp'd about the Part, putting a warm Linen-Cloth over them. This Operation is to be re-iterated; and by this means the Humour is diſſolv'd thro' Tranſpiration by Sweat.

The Cataplaſms are compos'd of Camomile, Melilot, St. *John*'s-wort, Sage, Wall-wort, Pellitory of the Wall, Roots of Briony, and Onions, all boil'd together in White Wine with Honey, adding, if you pleaſe, a few Cummin or Fennel-Seeds beaten. Cataplaſms are alſo made of Horſe-dung and the Seeds of Cummin beaten, which are boil'd in ſtrong Vinegar, and mix'd with Barley-Meal to the Conſiſtence of Pap.

The Plaiſters are prepar'd with an Ounce of *Diapalma*, half an Ounce of *Martiatum*, a Pint of Oil of Lillies, half an Ounce of Cummin-Seeds powder'd, half a Dram of *Sal Armoniack*, and an Ounce of yellow Wax to make a Conſiſtence.

If any Hardneſs remains, the Plaiſter of Mucilages may be apply'd; or that which is made of the Gums, *Bdellium*, *Ammoniack*, and *Galbanum*, diſſolv'd in Vinegar. But Care muſt be taken not to omit the Purgatives of Jalap, to the quantity of a Dram in a Glaſs of White-wine; or of half an Ounce of Lozenges of *Diacarthamum*, which are effectual in exhauſting the Stock of phlegmatic and ſerous Humours, which nouriſh Oedematous Swellings.

Of

Of Oedematous *Tumours or Impoſtumes.*

What are the Kinds of Tumours that partake of the Nature of an Oedema.

They are the *Phlyctæna*, and *Emphyſema*, the *Batrachos* or *Ranunculus*, the Wen, the *Talpa*, the *Bronchocele*, the *Ganglion*, the *Fungus*, the Scurf, the *Scrophula* or King's-Evil, and all Sorts of Dropſies both general and particular.

What are Phlyctænas?

They are Puſtules or Bliſters fill'd with a white and ſomewhat yellowiſh Humour.

What is an Emphyſema?

It is a kind of a flatuous Tumour, wherein Wind is contain'd, with a little ſlimy Phlegm.

What is a Batrachos *or* Ranunculus?

It is a Bliſter fill'd with ſlimy Water that ariſes under the Tongue near the String, and in *French* is call'd *Grenouillette*, or the *little Frog*; which is the ſame with its *Greek* and *Latin* Names.

What is a Wen?

It is a Tumour conſiſting of thick, tough, pituitous Matter, like Plaiſter, and is reckon'd among the *Encyſted* Swellings.

What is a Talpa?

It is a ſoft and pretty large Tumour, which uſually appears in the Head and Face, containing a white, thick, and pituitous Matter.

What is a Bronchocele?

It is a Tumour which ariſeth in the Throat, and diſtends it exceedingly; being compos'd of thick Phlegm mix'd with a little Blood, and is rank'd among the *Encyſted* Tumours.

What is a Ganglion?

It is a very hard Tumour, void of Pain, and moveable, produc'd by thick Phlegm: This is always found upon ſome Nerve or Tendon.

What is a Fungus?

It is a ſpungy Tumour that grow upon Tendons bruis'd or weakened by ſome Hurt.

What is the Scurf?

It is a whitiſh and ſcaly Tumour rais'd in the Skin of the Head by a viſcous and mix'd Phlegm, having its Root in the bottom of the Skin.

What is the Scrophula *or Kings-Evil?*

Scrophulæ or *Strumæ*, commonly call'd the *Kings-Evil*, are Tumours that generally ſhew themſelves in the Glands of the Neck, and in all thoſe Parts where there are any. They conſiſt of a viſcous, ſerous, and malignant Phlegm, the Source or Root whereof is ſuppos'd to be in the Glands of the *Meſentery*. They are alſo of the Number of the *Encyſted* Tumours.

What is the Dropſie?

It is a ſoft Tumour occaſion'd by the ſettling of abundance of ſerous Matter in the Part where it appears.

How many ſorts of Dropſies are there?

There are three general *Species*, *viz.* the *Aſcites*, *Tympanites*, and *Leucophlegmatia*.

What is an Aſcites?

It is a kind of Dropſie that forms the Tumour or Swelling of the *Abdomen* or lower Belly, by a Maſs of Water.

What is a Tympanites?

It is a kind of Dropſie, which in like manner cauſeth a Tumour or Swelling in the lower Belly, with this Difference, that a great deal of Wind is mix'd with the Water, which renders the Tumour tranſparent, and ſounding as it were a Drum, whence this Diſeaſe hath taken it Name.

What is the Dropſie call'd Leucophlegmatia?

It is a Tumour, or, to ſpeak more properly, a general Swelling or Bloating of all the other Parts of the Body, as well as of the lower Belly. It is produc'd by a viſcous and mucilaginous ſort of Phlegm; whence it happens, that the Print of the Fingers remains in thoſe Places that have been preſt.

What are the particular kinds of Dropſies?

They are thoſe that are incident to different Parts of which they bear the Names: as the *Hydrocephalus*, which is the Dropſie of the Head; the *Exomphalus* of the Navel; and the *Hydrocele* of the *Scrotum*. There is alſo a Dropſie of the Breaſt, and of the Womb.

What are the Remedies proper for all theſe ſorts of Tumours or Dropſies?

They

They are in general all thoſe that are agreeable to the *Oedema*, which are variouſly us'd; as, Liniments, Fomentations, Cataplaſms, and Plaiſters: Internal Medicines ought alſo to be much conſider'd, as Diaphoreticks, Sudorificks, and Purgatives, when they are aſſiſted by a regular Diet.

A Decoction of the Roots of Briony with Cinnamon and Liquoriſh provokes the Urine very much, as well as a Decoction of Turnips and Carrots, and an Infuſion of Sage in White-wine.

ARTICLE IV.

Of a Schirrus, *and its peculiar Remedies.*

WHAT is a Schirrus?

It is a hard unmoveable Tumour, almoſt altogether void of Pain, and of a livid dark Colour; which is form'd of a Melancholick Humour, frequently ſucceeding *Phlegmons* and *Oedema*'s that have not been well dreſt with convenient Remedies.

How is the Schirrus *cur'd?*

By mollifying and diſſolving it, but ſeldom by bringing it to Suppuration.

It may be mollify'd by the Application of a Cataplaſm or Pultis, compos'd of the Leaves of Violet-Plants, Mallows, Beets, Elder, Rue, and Wormwood, with Camomile-Flowers, Horſe-Dung, Cow-dung, and White-Lilies. The whole Maſs is to be boil'd together in Wine, afterward adding Honey and Hogs-Lard, to make a Cataplaſm thereof with the Crum of white Bread.

It is diſſolv'd with Plaiſters compos'd of *Dyachylon*, Melilot, and Mucilages, to which is added *Oleum Lumbricorum*, and Flower of Brimſtone. To render the Remedy more effectual, Oil of Tobacco may be alſo mix'd with it, and Gum *Ammoniack* diſſolv'd in Vinegar.

Fur-

Furthermore, these Topical or outward Medicines are to be accompany'd with others taken inwardly, which serve to prepare the Humours for convenient Evacuations; such are Crabs-Eyes, the Jaws of a Pike, the Decoctions of *Sarsaparilla*, the Use of good Wine, and light Meats of easie Digestion.

Of Schirrous *Tumours, and their Remedies.*

What are the Tumours that partake of the Nature of a Schirrus?

They are the *Polypus*, *Carcinoma*, *Sarcoma*, *Natta*, *Ficus* or Lust, and the *Cancer*.

What is a Polypus?

It is an Excrescence of fungous Flesh arising in the Nostrils. *Hippocrates* confounds the *Carcinoma* and *Sarcoma* with the *Polypus*, of which he says they are only a *Species*.

What is the Natta, Ficus, or Lust?

It is a Tumour or Excrescence of Flesh, that appears in the Buttocks, Shoulders, Thighs, Face, and every where else, the various Figures of which cause it to be call'd by different Names. For one while it resembleth a Goose-berry, at another time a Mul-berry, and at another time a Melon or Cherry. Sometime also these Swellings are like Trees, Fishes, Birds, or other sorts of Animals, according to the ardent Desire that Women with Child have had for things that they could not obtain when they longed for them.

What are the Remedies proper for the Polypus, *and other kinds of Excrescences of the like Nature?*

The *Polypus* may be cur'd in the beginning, but it is to be fear'd, lest it degenerate into an incurable Cancer, when it hath been neglected or ill dress't.

Besides the general Remedies, which are letting Blood a little, and re-iterated Purgations, with an exact Regulation of Diet, there are also particular Medicaments, which dry up and insensibly consume the Excrescence; as a Decoction of *Bistort*, *Plantain*, and *Pomegranate*-Rinds in Claret-Wine, which is to be snuffed up the Nose many times in a Day, and serves to soak the small Tents that are put therein, also often to cool the part, a little Allum and Honey being added. The

The Patient muſt ſometimes likewiſe keep in his Mouth a Sage-Leaf, ſometimes a Piece of the Root of *Pellitory* of *Spain*, and at another time Tobacco, or ſome other thing of this Nature, which brings the *Saliva* into the Mouth. If the Tumour continues too long, and doth not yeild to the above-mention'd Remedies, it is neceſſary to proceed to a manual Operation, which is very often perform'd with good Succeſs.

As for the *Natta*'s, it is moſt expedient not to meddle with them at all: nevertheleſs theſe Marks which Infants bring along with them into the World, are frequently taken off by an Application of the After-Burdens, whilſt they are yet warm, as ſoon as their Mothers are deliver'd.

What is a Cancer?

It is a hard, painful, and ulcerous Tumour, produc'd by an aduſt Humour, the Malignity whereof can ſcarce be ſuppreſs'd by any Remedies.

How many Sorts of Cancers are there?

There are two Kinds, *viz.* the Primitive, and the Degenerate. The Primitive Cancer is that which comes of it ſelf, and appears at firſt about the bigneſs of a Pea or Bean, which nevertheleſs doth not ceaſe to cauſe an inward Pain, continual, and pricking by Intervals: during this time it is call'd an *Occult Cancer*; but when grown bigger, and open'd, it bears the Name of an *Ulcerated Cancer*; which is ſo much the leſs capable of being cur'd or aſſwag'd, as it makes it ſelf more conſpicuous by its dreadful Symptoms, or concomitant Circumſtances.

The Degenerate Cancer is that which ſucceeds an obſtinate and ill-dreſs'd Tumour or Impoſtume, and which becomes an Ulcerated Cancer, without ever having been an Occult or Latent one at firſt.

What Remedies are requiſite to be aply'd to a primitive, latent or occult Cancer?

In regard that it cannot be known in this Condition without Difficulty, it is often neglected; nevertheleſs it is a Matter of great Moment, to prevent its Conſequences, more eſpecially by a good Diet and by general Remedies, which may gently rectifie the Intemperature of the Bowels: Afterwards the Baths may be preſcrib'd, together with the uſe of Whey, Aſſes-Milk,

Milk, and Specificks in general, as Powders of Crabs-Eyes, Vipers, Adders, and others. As for Topical Remedies, none are to be adminiſtred, except it be judg'd convenient to apply to the Tumour a piece of Lead rubb'd with Quick-ſilver; all others ſerving only to make the Skin tender, and apt to break. The Patient may alſo take for his Drink, Water of *Scorzonera* and Harts-Horn, with the Flowers of *Buglos* or *Borage*, and Liquoriſh; or elſe Quick-ſilver Water alone, boiling an Ounce of it in a Quart of Water every time, the Quick-ſilver always remaining at the bottom of the Veſſel.

What are the Remedies for an Ulcerated Cancer?

Beſides the general ones, that are the ſame with thoſe of the occult Cancer, there are alſo Topical, which may take place here. The Powders of Toads, Moles, Frogs, and Crabs calcin'd, cleanſe the Ulcers perfectly well. A Decoction of Vipers and Crabs, may ſerve to bathe them, and ſome of it may be taken inwardly. Deterſives made of Lime-Water, or Whey clarify'd and boil'd with *Chervil*, are very good; and, if you pleaſe, you may add Camphire of *Saccharum Saturni*.

If the Pains grow violent, recourſe is to be had to *Laudanum*, one or two Grains whereof may be given in a little Conſerve of Roſes. When the Cancer is ſituated in the *Glands*, or Fleſh, the Extirpation of it may alſo be undertaken with good Succeſs.

As for the manner of treating degenerate Cancers, reſpect muſt be always had to the kind of Tumour from whence it deriv'd its Original.

CHAP.

CHAP. IV.

Of Baſtard or Encyſted *Tumours.*

WHAT is an Encyſted *or Baſtard Tumour or Impoſtume?*

It is that which is made of a ſettling of mix'd and corrupt Humours, the Matter whereof is contain'd in certain proper *Cyſts* or membranous Bags.

What are the Kinds of theſe Tumours?

They are the *Steatoma*, the *Atheroma*, the *Meliceris*, the Wen, the *Bronchocele*, and the *Scrophula* or Kings-Evil.

How is the Difference between theſe Tumours diſcern'd.

The *Steatoma* is known by its Matter reſembling Suet; as that of the *Atheroma* reſembleth Pap; and that of the *Meliceris* is like Honey. Theſe three Tumours cannot be well diſtinguiſh'd on the outſide, in regard that they do not change the natural Colour of the Skin, which equally retains in all three the Print of the Fingers that preſs it. But the *Bronchocele* is diſcover'd by the Place and Part which it poſſeſſeth, that is to ſay, the Throat; as alſo by its ſomewhat hard Conſiſtence without the Alteration of the Skin. The *Scrophulæ* or King's-Evil Swellings are known by their unequal Hardneſs, and their Situation upon the *Glands*, either in the Neck, Arm-pits, or elſewhere, without Alteration likewiſe of the Skin.

REMEDIES.

What is the Method to be obſerv'd in curing theſe ſorts of Tumours?

An Attempt is to be made to diſſolve them, as in all the others; nevertheleſs the ſafeſt way is to bring them to Suppuration, and to extirpate the *Cyſts*, which are apt to be fill'd again after the Diſſipation of the Humour.

What

What are the Medicines proper to dissolve these Tumours?

They are all such as may be us'd for the *Oedema* and *Schirrus*; but the Specificks or particular Remedies are these.

Take Rosemary, Sage, Wormwood, Elder, great Celandine, Camomile, *Melilot*, *St. John's-wort*, and Tobacco; boil them in White-wine with Soot and *Mel Mercuriale*, adding thereto Cummin-Seeds beaten, and *Oleum Lumbricorum*, to make a Cataplasm, which is to be renew'd twice a Day. Afterward if the Tumour be not dispers'd, you may apply the following Plaister, which hath an admirable Effect.

Take an equal Portion of *Emplastrum Diachylon* and *Devigo*, and four times as much *Mercury* and *Emplastrum Divinum*; let them be dissolv'd together; then mix Saffron and Oil of Tobacco, enough to make a Plaister with the whole Mass, which may be spred upon thin Leather, and apply'd to the Tumour, taking it off only once every eighth Day, to cool it; let it be laid on again, after having wash'd and bath'd the Part with warm Urine or Brine.

But it is to be always remembred, that external Remedies take effect only imperfectly, unless they are assisted by internal, such as in this case are reiterated Purgations, join'd with a regular Diet.

What are the Remedies proper to excite Suppuration?

To this purpose those may be us'd that serve in other kinds of Tumours. But as for the Extirpation of the *Cysts*, it is to be done by dividing the Tumour into four Parts, by procuring Suppuration, and by consuming the Bag by little and little. The *Bronchocele* alone will not admit this Extirpation, by reason of the great Number of Nerves, Veins, and neighbouring Arteries, amidst which the Tumour is settled: yet *Bronchotomy* is used, which is the proper operation for this sort of Tumour.

CHAP.

CHAP. V,

Of Critical, Malignant, Peſtilential, and Venereal, Tumours or Impoſtumes.

WHAT Difference is there between Critical, Malignant, Peſtilential, and Venereal Tumours or Impoſtumes?

It conſiſts in theſe particular Circumſtances, *viz.* that Critical Tumours or Impoſtumes are indifferently all ſuch as are form'd at the End or Termination of Diſeaſes, in whatſoever Place or Part they appear.

Malignant Impoſtumes or Tumours are thoſe that are obſtinate, and do not eaſily yield to the moſt efficacious Remedies.

Peſtilential Impoſtumes or Tumours are thoſe that are accompany'd with a Fever, Swooning, Head-ach, and Faintneſs: They uſually ariſe in the time of a Plague or Peſtilence, and are contagious.

Venereal Tumours or Impoſtumes are thoſe that appear at the bottom of the Groin, and are the Product of an impure *Coitus*.

And therefore the Critical Impoſtume may be Malignant, Peſtilential, or Venereal; the Malignant Impoſtume may be neither Critical, nor Peſtilential, nor Venereal. But the Peſtilential and Venereal Tumours are always Malignant.

What are the ordinary kinds of Critical Tumours or Impoſtumes?

They are the *Anthrax*, the Boil, the *Phlegmon*, and the *Parotides* or Swellings in the Almonds of the Ears.

What are the kinds of malignant Tumours or Impoſtumes?

They are the *Cancer*, the *Scrophula* or King's-Evil, and others of the like nature.

What are the kinds of Peſtilential Tumours or Impoſtumes?

They are Carbuncles that break out every where; a ſort of *Anthrax* which appears under the Arm-pits; and Bubo's in the Groin.

What

What are the kinds of Venereal Tumours or Impoſtumes?

They are Botches or *Bubo's*, and *Cancers* that ariſe in the Yard; as alſo Wens and *Condylomas* in the Fundament.

What is the difference between a Peſtilential and a Venereal Bubo?

They may be diſtinguiſh'd by their Situation, and reſpective Accidents; the Peſtilential lying higher, and the Venereal lower: beſides, a Fever, Sickneſs at the Heart, and an univerſal Faintneſs or Weakneſs, are the ordinary concomitant Circumſtances of the former; whereas the Venereal *Bubo* is always the Conſequence of an impure *Coitus*, and is attended with no other Symptoms than thoſe of common Tumours, *viz.* Pain, Heat, Shootings or Prickings, *&c.*

As for the Remedies, they may be ſought for among thoſe that have already been preſcribed for Tumours.

CHAP. VI.

Of the SCURVY.

THIS Diſeaſe is known by the Ulcers of the Mouth, which are very ſtinking; as alſo by exceſſive Salivation, great Pains in the Head, Dizzineſs, *Epilepſies*, *Apoplexies*, and Palſies. The Face being of a pale red and dark Colour, is ſometimes puffed up or bloated, inflamed, and beſet with Puſtules: The Teeth are looſe and ake, the Gums are ſwell'd, itch, putrifie, are ulcerated, and eaten with the Canker; and the Jaw is almoſt unmoveable: The Members are bowed, and cannot be extended: The Patients become ſtupid and drowſie, ſo that they fetch their Breath with difficulty, are obnoxious to Palpitations of the Heart, and Coughs, and fall into Swoons. The Ulcers ſometimes are ſo malignant, that the Cheeks are intirely eaten up, and the Teeth ſeen: They

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are also much inclin'd to Vomiting, Looseness, and Gripes; and their Bowels are swell'd: They have red and livid Pustules on their Belly and Privy-Parts, which sometimes break out into Ulcers; their whole Body being dry'd, *&c.*

This Disease may be easily cur'd in the beginning; but when it is grown inveterate, and invades the necessary Organs of Life, it becomes incurable; as well as when it is the Epidemical Disease of the Country, or the Persons afflicted with it are old and well advanc'd in Years.

In undertaking the Cure, it is requisite to begin with a good Diet, and to sweeten the Blood: let the Patient take the Broth of boil'd Fowl, eating Pullets and Eggs; in the Broth may also be put divers sorts of antiscorbutick Herbs, *viz.* Cresses, Spinage, Parsley-Roots, Asparagus, Smallage, *Scorzonera*, Scurvy-grass, *&c.* Let him eat nothing that is high season'd, or acid or sharp; let him drink pure Claret, without any adulterate Mixture; let him use moderate Exercise and Rest; lastly, let him keep his Mind sedate, and free from all manner of violent Passion.

The following Remedies taken inwardly, are very good for the Scurvy, *viz.* the Tincture of Flints, from Ten Grains to Thirty; Diaphoretick Antimony, from Six Grains to Thirty; sweet Sublimate, from Six Grains to Thirty; *Mars Diaphoreticus*, from Ten Grains to Twenty; *Crocus Martis Aperitivus*, from Ten Grains to Two Scruples; prepar'd *Coral*, from Ten Grains to one Dram; Volatile Spirit of *Sal Armoniack*, from Six Drops to Twenty; Water of Cresses, from Fifteen Drops to one Dram; Spirit of Scurvy-grass, from Ten Drops to one Dram; Tincture of Antimony, from Four Drops to Twenty; Oily Volatile *Sal Armoniack*, from Four Grains to Fifteen; Spirit of *Guajacum*, from half a Dram to a Dram and a half; *Vitriolate Tartar*, from Ten Grains to Thirty; the Volatile Salts of *Tartar*, Urine, Vipers, and Harts-Horn, of each from Six Grains to Fifteen; the Spirit of Gum *Ammoniack*, from Eight Drops to Sixteen; white *Mercury* precipitate, from Four to Ten Grains; *Mercurial Panacea* from Six Grains to Two Scruples. We shall shew the manner of compounding them in our Treatise of *Venereal Diseases*.

It is alſo expedient to give emollient and deterſive Clyſters to the Patient at Night going to Bed, his Body being always kept open with convenient Diet-drinks. Afterward let him take gentle Sudorificks, ſuch as are made of the Decoctions of Fumitory, wild Cichory, Dandelion, Harts-Tongue, Scabious, the leſſer Houſe-Leek, Germander, Borage, *Scorzonera*-Root, Polypody, Parſley, and Fennel, with Flowers of Broom, Elder, and Marygold.

Theſe are ſtronger for cold Conſtitutions, *viz.* Decoctions of Scurvy-graſs, *Lepidium*, Arſmart, the Leſſer Celandine, Wormwood, Little Houſe-Leek, *Trifolium fibrinum*, *Angelica*, Juniper-Berries, *&c.*

Convenient Decoctions to waſh the Mouth may be made with Sage, Roſemary, Hyſſop, Oak-Leaves, Scurvy-graſs, Creſſes, Tobacco, Roots of Biſtort, Birth-wort, Tormentil, Flower-de-Luce, *Balauſtia* or Pomegranate-Flowers, and red Roſes: Spirit of Wine with Camphire ſteeped in it is excellent.

To corroborate the Gums, Gargariſms are made of antiſcorbutick Plants; as of Spirit of Scurvy-Graſs two Drams, one Scruple of Spirit of Vitriol, one Scruple of common Salt, four Ounces of Roſe-water, and Plantane-water; But if the Gums are putrify'd, they are to be rubbed with Honey of Roſes, and ſome Drops of Spirit of Salt.

To aſſuage the Pains of the Members, Bathings, and Fomentations are to be us'd; and a Decoction of Saſſafras taken inwardly, with ſome Grains of *Laudanum* is good for that purpoſe.

To allay the Gripes, Clyſters may be given with Whey, Sugar, Yolks of Eggs, Syrup of Poppies, and Oils of Earth-Worms, Scurvy-Graſs, Camomile, *&c.*

Againſt the Scorbutick Dropſie, take the Eſſence of *Trifolium Fibrinum*, and Elicampane, from twenty four Drops to thirty, and continue the Uſe thereof.

Milk taken inwardly hinders Vomiting; and a Broth or Gelly of Crabs ſweetens the Blood. The Looſeneſs may be ſtopt with the Eſſence of Wormwood, and Spirit of *Maſtick*; as alſo the Fever, with Febrifuges and Antiſcorbuticks.

The Spots may be fomented with Decoctions of aromatick and antiſcorbutick Herbs, with Nitre, and Oint-

Ointment of *Styrax*. For the Ulcers of the Legs, pulverize an equal Quantity of *Saccharum Saturni*, *Crocus Martis*, Myrrh, and *Mercurius Dulcis*, and arm the Pledgits with these that are to be apply'd to the Sores.

To mollifie the sharpness of acid Humours, this is a good Remedy: Take half an Ounce of Spirit of Scurvy-grass, two Drams of Tartariz'd Spirit of *Ammoniack*, a Dram of the Tincture of Worms gathered in *May*. Give thrice a Day fifteen or twenty Drops of this Liquor in a Decoction of Fir-Tops.

Against the Tubercules, take two Handfuls of the Flowers of Camomile, and Elder, three Drams of Briony-Root, and a Handful of White-bread Crum; boil the whole Composition in Milk, and make Cataplasms thereof.

To mitigate the Pains in the Head, take twenty or thirty five Drops of the Tincture of Amber, in antiscorbutick Spirits or Waters.

The Difficulty of Respiration may be remov'd by a medicinal Composition made of two Drams of an antiscorbutick Water, two Drams of the Essence of Elicampane, and half a Dram of the Spirit of Gum *Ammoniack*; take three or four Spoonfuls thereof several times in a Day.

To prevent the putrefaction of the Gums, take one Dram of the Tincture of Gum *Lacca*, three Drams of the Spirit of Scurvy-grass, with fifteen or twenty Drops of Oil of Tartar made *per Deliquium*, and rub the Gums with this Composition many times in a Day. Brandy in which Camphire is infus'd, or Spirit of Wine, is likewise a most excellent Remedy; as also all Lotions or Washes made with the Waters or Decoctions of antiscorbutick Plants.

For Leanness, Goats-Milk with the Spirit of Scurvy-grass may be us'd, and other Waters drawn from antiscorbutick Plants. The Apozemes or Decoctions of Endive, Cichory, Sorrel, *Becaburga*, and Snail-Water, are in like manner very good for the same purpose.

Ointment of *Styrax* is frequently us'd in the *Hotel Dieu* at *Paris*, for Spots and Hardnesses that arise in the Legs.

A TREATISE OF WOUNDS, ULCERS and SUTURES.

CHAP. I.

Of SUTURES.

SUTURES or Stitches are made only in recent, and as yet bleeding Wounds, when they cannot be reunited by Bandage, as are the Tranſverſe; provided there be no Contuſion, nor loſs of Subſtance, nor great Hæmorrhages; as alſo that the Wounds were not made by the biting of venomous Beaſts; that there be no violent Inflammations; and that the Bones are not laid open, becauſe then generally 'tis neceſſary to cauſe them to be exfoliated; neither is this Operation to be perform'd in the Breaſt, by reaſon of its Motion.

The Inſtruments proper for the making of Sutures, are ſtreight and crooked Needles, with waxed Thread: and theſe Sutures are of four ſorts, *viz.* firſt, the *Intermittent Suture*, for tranſverſe Wounds; the ſecond, for the Hair-Lip; the third, commonly call'd the *Dry Stitch*, for ſuperficial Wounds; and the fourth, term'd the *Glovers Stitch*, for the Inteſtines, *&c.*

The *Intermittent Suture*, is that which is made at certain ſeparated Points, according to the following manner. After having taken away all extraneous Bodies out of the Wound, let a Servant draw together its ſides or Lips; and let a Needle with waxed Thread be paſs'd through the middle, from the outſide to the inſide, ſeveral Stitches being made proportionable to its length. It is requiſite, to pierce a good way beyond the edge of the Wound, and to penetrate to the Bottom, leſt any Blood ſhould remain in the Space, that might hinder the re-uniting.

If the Wound hath Corners, the Surgeon begins to ſew there; and before the Knot is made, cauſeth the Lips of the Wound to be drawn exactly cloſe one to another. The Knots muſt be begun with that in the middle, and a ſingle one is firſt made on the ſide oppoſite to the running of the Matter; laying upon this Knot (if it be thought convenient) a ſmall Compreſs of linen Rags waxed, on which is tied a ſlip-Knot, to the end that it may be untied if any bad Accident ſhould happen. If a Plaiſter be applyed to the Wound after the Stitching, a ſmall Compreſs is to be laid over the Knots, to prevent their ſticking to the Plaiſter. In Caſe any Inflammation happens in the Wound, the Knots may be looſened, and tyed again when the Symptoms ceaſe: but if the Inflammation continue, the Threads are to be cut by paſſing a Probe underneath. When the Wound is clos'd, the Threads are cut in like manner with a Probe; and in drawing them out, a Finger muſt be laid near the Knot, leſt the Wound ſhould open again.

To make the ſecond ſort of *Suture* for the Hair-Lip, a ſmall ſtrait Needle is paſs'd into the ſides of the Wound, and the Thread is twiſted round the Needle, by croſſing it above at every ſtitch.

To form the *Dry Suture* in very ſuperficial Wounds, a piece of new Linen-Cloth is to be taken, wherein are made Digitations, or many Corners; the Selvedge or Hem ought to be on the ſide of theſe Corners or Digitations, leſt it ſhould unravel; and a ſmall Thread-Lace is tyed to every one of them. Afterward this Cloth is dipt in ſtrong Glue, and apply'd about a Finger's breadth from the Edges of the Wound; ſo that a piece thereof being ſtuck on each ſide, the Laces may be ty'd together, to cauſe the Lips of the Wound to meet.

To

To make the *Glovers Suture*, the Operator having drawn together the Lips of the Wound, holds them between two Fingers, passeth a Needle underneath them, and sews them upward all along, after the manner of the *Glovers*.

CHAP. II.

Of Wounds in General.

WHAT is a Wound?

A Wound is a recent, violent, and bloody Rupture or Solution of the natural Union of the soft Parts, made by a pricking, cutting, or bruising Instrument.

What ought to be observ'd before all things in the curing of Wounds?

It is requisite to take notice of their Differences, as well as of the Instruments with which they were made; to the end that Consequences may be drawn from thence for the Application of proper Remedies.

From whence ariseth the Difference of Wounds, and which be they?

They are taken either from their Figure or Situation: With regard to their Figure, they are call'd Long, Broad or Wide, Triangular, Great, Little, Superficial, or Deep; and with respect to their Situation, they are term'd Simple, Complicated, Dangerous, or Mortal.

What is a Simple, and a Complicated Wound?

A Simple Wound is that which only opens the Flesh, and hath no other concomitant Circumstances: but a Complicated Wound, on the contrary, is that which is attended with grievous Symptoms, as Hæmorrhages, Fractures of Bones, Dislocation, Lameness, and others of the like Nature.

What is a dangerous, and a mortal Wound?

A dangerous Wound is that which is complicated, the Accidents whereof are dreadful; as when an Artery is open'd or prick'd, when a Nerve or Tendon is cut, or

when the Wound is near a Joynt, and accompany'd with a Diſlocation or Fracture. A mortal Wound is that which is generally follow'd by Death; as is that which is ſituated deep in a principal Part neceſſary for the Preſervation of Life.

What are the Parts wherein Wounds are mortal?

They are the Brain, the Heart, the Lungs, the *Oeſophagus* or Gullet, the Diaphragm, the Liver, the Stomach, the Spleen, the ſmall Guts, the Bladder, the Womb, and generally all the great Veſſels.

Wherein doth the Cure of Wounds conſiſt?

In helping Nature readily to procure the re-uniting of the Parts that have been divided, after having taken away or aſſuag'd every thing that might prove an Obſtacle.

What are the Things that hinder the ſpeedy re-union of the Parts.

They are extraneous Bodies found therein, as Bullets, Flocks, and pieces of Wood or Stone, *&c.* As alſo ſometimes the Accidents which attend them; as an *Hæmorrhage* or Flux of Blood, Inflammation, *Eſthiomenus* or Mortification, *Hyperſarcoſis* or an Excreſcence of Fleſh, Diſlocation, the Fracture of a Bone, the Splinter of a Bone, and ſometimes a *noxious* Air.

REMEDIES.

What are the Remedies proper for ſtopping an Hæmorrhage *or Flux of Blood?*

The common Remedy is a kind of Cataplaſm, made up with the Powder of Aloes, Dragon's-Blood, Bole Armoniac, and Whites of Eggs, which are mix'd together, and laid upon the Wound; but the following is an excellent one.

Take two Ounces of Vinegar, a Dram of *Colcothar*, two Drams of *Crocus Martis aſtringens*; beat the whole together, ſteeping *Muſcus Quercinus* therein; then throw upon it the Powder of Muſhrooms, or of *Crepitus Lupi*. Apply this Remedy, and you'll ſoon ſtop the *Hæmorrhage*, taking care nevertheleſs to bind the Part well, otherwiſe the Aſtringents do not readily take effect.

To

To this purpose you may also make use of Cobwebs, Mill-Dust, and the Powder of Worm-eaten Oak; or else take Oven-Soot mix'd with the Juice of the Dung of an Ass or Ox, adding only thereto the White of an Egg.

Besides these Remedies, there are also actual and potential Cauteries, or simple Ligatures. Indeed the actual Cautery is not always sure; because when the Eschar made by the Fire falls off, the Hæmorrhage breaks out again as before: but the potential Cautery is almost always successful; such as the following.

Take about an equal Quantity of Vitriol and Powder of Mushrooms; apply them upon a little Lint to the Place where the Blood issueth forth, and this will stop it immediately: but care must be taken to avoid touching a Nerve or Tendon; by reason that the Vitriol is apt to excite Convulsions.

How is the Inflammation and Mortification of a Wound suppress'd?

If the Inflammation proceeds from the Presence of an extraneous Body, it must be taken away as soon as possible with a pair or Forceps; and if from the Quantity of *Pus* or corrupt Matter, it must be let out. But in case the Inflammation ariseth from extreme Pains, they are to be assuaged with Cataplasms or Pultisses, and anodyne Liniments, such as those already preserib'd in the Cure of the *Phlegmon*; or else the Part may be bath'd with Camphirated Spirit of Wine, mixt with as much Water: *Saccharum Saturni* infus'd in Lime-water, performs the same Effect, and the Water of Crabs alone is admirable in its Operation.

Against the *Esthiomenus* or Mortification, make use of Wine boil'd with Wormwood, St. *John*'s-wort, Rosemary, and Aloes: or else take the Tincture of Aloes and Myrrh, or Spirit of Wine alone impregnated with Camphire and Saffron.

What is to be done in Case a convulsion happens, by reason of a wounded Nerve or Tendon?

If the Convulsion be caus'd by the Presence of an extraneous Body that bruiseth the Part, it must be taken away; and if from the wounding of a Nerve, pour into the Wound some Drops of the Oil of Lavender distill'd, which in this Case is of singular Use. This Oil may be also

taken

taken inwardly in an appropriated Liquor, ſuch as a Decoction of Wormwood, and of the tops of the leſſer Centaury. Balſam of *Peru* uſed in the ſame manner is an excellent Remedy; and the Oils of Worms, Snails, St. *John*'s-wort, and Turpentine are frequently applied with good Succeſs.

If the Convulſion proceeds from the biting of ſome venomous Creature, Cupping-Glaſſes or Leeches are to be immediately applied, or a Cataplaſm of *Venice*-Treacle with the Spirit of Wine, or Actual Cautery, leaving to the Phyſicians Care the Preſcription of other vulnerary Remedies proper to be taken inwardly.

What is to be done to draw the extraneous Bodies out of a Wound?

When they cannot be taken away with the Fingers or Forceps, the Patient muſt be ſet in the ſame Situation or Poſture wherein he was when he receiv'd the Wound, in order to get ſome farther Light to diſcover them; or elſe ſuch Plaiſters may be uſed as are endued with an attractive Quality, particularly this:

Take an Ounce of *Venice*-Treacle, half a Dram of Gum *Ammoniack*, one Dram of *Bdellium*, and two Drams of Boars Greaſe, adding a Quarter of a Pound of Wax to make them up into the Form of a Plaiſter. It is reported, that Hares Greaſe alone hath the ſame Effect, and that it goes for a Secret among the Surgeons; but you may, if you pleaſe, mix it with Ointment of Betony. However it hath been obſerved, that Leaden Bullets may ſometimes remain in a Man's Body during his whole Lifetime, without doing any harm.

How are Excreſcences to be taken away?

They may be conſum'd with Powder of *Allum*, *Unguentum Ægyptiacum*, or *Lapis Infernalis*?

After having remov'd every thing that hinders the re-uniting the Lips of the Wound, what is to be done to attain thereto?

The Re-union in Wounds is properly the Work of Nature; but it may be promoted by putting into them a little Balſam of *Peru*, and drawing together their Lips with the Fingers: Afterwards the Lips muſt be kept clos'd with a Bandage, a glutinous Plaiſter, or elſe by the Dry Stitch, provided the Wound be only ſuperficial, hindering the Air from penetrating into it. For want of Balſam

of

of *Peru*, an excellent one may be made with the Flowers here ſpecified,

Take the Flowers of Henbane, St. *John*'s-wort, and Comfry, and let them be digeſted in the Sun during the whole Summer-ſeaſon in the Oil of Hempſeed, which Oil, the longer it is kept, proves ſo much the better, if it be ſet forth in the Sun every Summer, the Veſſel that contains it being well ſtopt. There is alſo the *Balſam of Balſams*, or the Balſam of *Paracelſus*, call'd *Sameeh*.

To avoid the expoſing of Wounds to the Air, it is requiſite to cover them over the Dreſſings with ſome ſort of Plaiſter, which is uſually termed the *Surgeon's Plaiſter*; ſuch is this which is effectual in diſſolving, coroborating, and allaying Pain or Inflammation.

Take the Mucilages of the Roots of great Comfry and *Fœnugreek*, half a Pound of *Ceruſe* or white Lead, two Drams of *Crude Opium*, one Dram of Camphire, as much of Saffron, two Drams of *Sandarack*, one of the Oil of Bays, one half Pound of Roſin, and as much of Turpentine and Wax: Boil all theſe Ingredients together in a ſufficient Quantity of *Linſeed* Oil, and make a Plaiſter according to Art.

In great Wounds, it is expedient to lay over the Dreſſings a *Cataplaſm* or *Pultis*, ſuch as this:

Take the Leaves and Flowers of *Camomile*, and *Melilot*, the Tops of *Wormwood*, common *Mallows*, and *Marſh-Mallows*, with the Seeds of *Cummin* and *Linſeed* powder'd: Then boil the whole Compoſition in Wine, and add thereto *Barley-Meal*, to give it a due Conſiſtence. If there be any Cauſe to fear a Gangrene, you may alſo intermix Saffron, Myrrh, and Aloes with Spirit of Wine.

Is it neceſſary to put Tents into all Wounds, and to make uſe of Digeſtives and Suppuratives?

No, It is ſufficient to procure the re-uniting of the Parts ſimply by the means of Balſams in ſmall Wounds; becauſe they ought not to be brought to Suppuration. So that Digeſtives and Suppuratives are only neceſſary in great Wounds, and thoſe that are accompany'd with Contuſion, avoiding the ill Cuſtom of ſome Country-Surgeons, that ſtuff up their Wounds too much with Tents and Doſils, whereas they might well be content with ſimple Pledgits or flat Doſils dipt in the ordinary Digeſtive of Turpentine and the Yolks of Eggs, with a little Brandy,

or

or else with the Tincture of Myrrh and Aloes.

Suppuration may also be promoted by mundifying and quickening the Wound, especially if the Pledgits be steep'd in the following Composition.

Take half an Ounce of Aloes and Myrrh powder'd, two Drams of *Sal Saturni*, Twenty Grains of *Sal Armoniack*, the same Quantity of beaten Cloves, a Dram of Queen of *Hungary*'s Water, and half an Ounce of *Unguentum Basilicon*, and let the whole Mass be mingled together.

In fine, the whole Mystery consists in well cleansing the Wounds with a Linen-Cloth, or with the Injections of the Tinctures of Myrrh and Aloes; or with simple Decoctions of Wormwood, *Scordium* or Water-Germander, Bugle, Sanicle, and Horehound in White-wine; as also by prescribing the vulnerary Decoctions of Powder of Crabs-Eyes, and *Saccharum Saturni*, to be taken inwardly, to consume the acid Humours, which are a very great Obstacle to the speedy Cure of Wounds.

What are the vulnerary Plants, the Decoction of which is to be taken inwardly?

They are *Alchymilla* or Ladies Mantle, Ground-Ivy, *Veronica* or *Fluellin*, *St. John*'s-wort, Wormwood, Centaury, Bugle, Sanicle, Chervil, and others. The Decoction of Crabs may also be prescrib'd, which is an excellent Remedy, and may serve instead of a vulnerary Potion.

Sometimes Sutures or Stitches contribute very much to the re-uniting of the Lips of Wounds, when they cannot be join'd by Bandage.

CHAP.

CHAP. III.

Of the Particular Wounds of the Head.

WHAT ought first to be consider'd in a Wound of the Head?

Two things, that is to say, the Wound it self, and the Instrument with which it was made: for by the Consideration of the Wound, we may know whether it be superficial or deep; and by that of the Instrument, we are enabled to make a truer Judgment concerning the Nature of the same Wound.

What is a superficial, and what is a deep Wound in the Head?

That is call'd a *Superficial Wound* in the Head, which lies only in the Skin; and that a *Deep* one, which reacheth to the *Pericranium*, Skull, or Substance of the Brain.

What is to be apply'd to a Superficial Wound?

It is cur'd with a little of the Queen of *Hungary*'s Water; or else with a little Balsam, laying upon it the Surgeons Plaister, or that of Betony. But if the Wound or Rent be somewhat large, it must be clos'd with a Stitch.

What is to be done to a deep Wound?

If it be only in the *Pericranium*, the Wound must be kept open, waiting for Suppuration: but if it enter the Skull, an Enquiry is to be made, whether there be a simple Contusion, or a Fracture also. In a Contusion, it is necessary to wait for the Suppuration, and the Separation of the Splinter, and to keep the Wound open; as in a Fracture, to examine, whether it be in the first Table only, or in both. It is known to be only in the first, by the Application of an Instrument, and of Printers Ink; as also in regard that there are no ill Symptoms: but a Fracture in both Tables shews it-self by proper Signs; so that it may be found out by making a Crucial Incision in the Flesh, and by discovering the Fissure.

What are the Signs of a Fracture of both Tables of the Skull, and of the Effusion of Blood upon the Membranes of the Brain?

They are the Loss of the Understanding at the very Moment of receiving the Wound; an Hæmorrhage or Flux of Blood through the Nose, Mouth, or Ears; Dosing and Heavineſs of the Head, and more especially Vomiting of Choler; from whence may be inferr'd the neceſſity of making use of the Trepan.

What Consequence may be drawn from the Knowledge of the Instrument with which the Wound was made?

It is according to the Quality of this Instrument, as it is proper to cut, prick, or bruise: if it be cutting, the Wound is more superficial, and not subject to a great Suppuration: if it be pricking, the Wound is deeper, but of small Moment: if it be a battering or bruising Instrument, the Wound is accompanied with Contusion, producing a great Suppuration, besides the Concussion and Commotion of the Part, which must necessarily follow, and often cause very dangerous Symptoms.

Inferences may be made also from the Disposition of the wounded Person: for a strong robust Man may better bear the Stroke than a weak one; and even Anger encreases the Violence: so that all such Circumstances are not to be despis'd, in regard that they give occasion to good Conjectures.

What particular Circumstance is there to be observ'd in undertaking the Cure of Wounds in the Face?

It is, that a more nice Circumspection is required here than elsewhere, in abstaining from Incisions, as well as in making choice of proper Medicines, which must be free from noisome Smells: and it is in this Part chiefly that Balsams are to be us'd, avoiding Suppuration to prevent Scars and other Deformities.

CHAP.

CHAP. IV.

Of the particular Wounds of the Breaſt.

WHAT is to be obſerv'd in the Wounds of the Breaſt?
Two Things, *viz.* whether they penetrate into the Cavity of the *Thorax* or not, which may be diſcover'd by the Probe, and by a Wax-Candle lighted and apply'd to the Entrance of the Wound, obliging the Patient to reſume the ſame Poſture wherein he receiv'd the Hurt, as alſo to keep his Noſe and Mouth ſhut. For then the Flame may be perceiv'd to be wavering, the Orifice of the Opening being full of Bubbles. A Judgment may be alſo made from the running out of the Blood.

What is to be done, when it is certainly known that the Wound penetrates into the Cavity of the Breaſt?

It is neceſſary to examine what Part may be hurt, by conſidering the ſituation of the Wound, and its Symptons. If the Lungs are pierc'd, a ſpitting of frothy Vermilion-colour'd Blood enſues, with difficulty of Reſpiration, and a Cough. If any of the great Veſſels are open'd, the wounded Perſon feels a weight at the bottom of his Breaſt is ſeiz'd with cold Sweats, being ſcarce able to fetch his Breath, and vomits Blood, ſome Portion whereof iſſueth out of the Wound. If the *Diaphragm* or Midriff be cut in its Tendinous Part, he is ſuddenly hurry'd into Convulſions; and if the Heart be wounded, either in its *Baſis* or *Ventricles*, he falls into a Swoon, and dies incontinently.

But if the Probe doth not enter, and none of the abovemention'd Symptoms appear, it may be taken for granted, that the Wound is of no great conſequence.

What is to be done, when the Wound penetrates into the Cheſt, yet none of the Parts are hurt, only there is an Effuſion of Blood, over the Diaphragm?

It is neceſſary to make an *Empyema*, for otherwiſe the extravaſated Blood in corrupting would inevitably cauſe an Inflammation, Gangrene, and kill the Patient.

What is an Empyema?

It is an Operation, whereby any ſorts of Matter are diſcharg'd with which the *Diaphragm* is loaded, by making a Perforation or Opening in the Breaſt.

CHAP. V.

Of the particular Wounds of the lower Belly.

***WHAT** is to be done to know the Quality of a Wound made in the lower Belly?*

It is requiſite, to make uſe of the Probe, to obſerve the ſituation of the Wound, and to take notice of all the Symptoms. For by the help of the Probe, one may diſcover whether it hath penetrated into the Cavity or not, after having injoyn'd the Patient to betake himſelf to the ſame Poſture wherein he was when he firſt receiv'd the Wound: By its ſituation, a Conjecture may be made, that ſuch a particular Part may be hurt: and by a due Examination of the Symptoms, one may attain to an exact Knowledge. As for Example: It is known, that one of the thick Guts is open'd, when the Hurt is found in the *Hypogaſtrium*, and the Excrements are voided at the Wound; as it is certain, that one of the thin Guts is pierc'd, when the Wound appears in the Navel, and the Chyle iſſueth forth from thence; and ſo of the others.

What Method ought to be obſerv'd in curing the Wounds of the lower Belly?

It is expedient at firſt, to prevent the letting in of the Air, and to dilate the Wound, in order to ſew up the perforated Gut, and afterward to reſtore it to its Place; as alſo to tie the Caul, which hangs out of the Orifice, and to cut it off, leſt in putrifying it ſhould corrupt the neighbouring Parts. Then thoſe Parts may be bath'd with Lees of Wine, wherein have been boil'd the Flowers of Camomile, and Roſes, with Wormwood: The Powders of Aloes, Myrrh, and Frankincenſe may be alſo ſprinkled on them; and the Wound muſt be ſew'd

up

up again to dreſs it on the Outſide, the Patient in the mean time being reſtrain'd to a regular Diet. But Clyſters muſt be forborn on theſe Occaſions, eſpecially when one of the thick Guts is wounded, making uſe rather of Suppoſitories or of laxative Diet-Drinks, to avoid Dilatation and Straining.

CHAP. VI.

Of Wounds made by Guns or Fire-Arms.

IN theſe Wounds there is always Contuſion, Laceration, with loſs of Subſtance, and often the Fracture and ſhattering of a Bone. They are red, black, livid, and inflam'd, not being uſually accompany'd with an Hæmorrhage: They are generally round, and ſtraiter at their Entrance than at their Bottom; at leaſt, if they were not made with Croſs-bar Shot, or Quarter-pieces.

Of the Prognoſtick of Wounds by Gun-ſhot.

When theſe Wounds penetrate into the Subſtance of the Brain, or Spinal Marrow, or into the Heart, *Pericardium*, great Veſſels, and other noble Parts, Death always inevitably follows, and often happens at the very Inſtant. But one may undertake the Cure of thoſe that are ſuperficial, and which are made in the Neck, Shoulders, Arms, and all other parts of the Body.

Of the Cure of Wounds by Gun-ſhot.

For the better curing of theſe ſorts of Wounds, it is requiſite to be inform'd of the Quality of the Fire-Arms by which the Wounds were made, in regard that a Muſquet is more dangerous than a Piſtol, and a Canon much more than a Muſquet; as alſo to examine their ſituation and concomitant Accidents: for by how much the more complicated they are, ſo much the greater is the Danger. Then the Patient muſt be ſet (as near as can be) in the very ſame Situation and Poſture wherein he remain'd when the Wound was receiv'd, in order to diſcover the direct Paſſage of the Wound by the Help of the Probe, with which a ſearch is to be made, whether a Bullet or any other extraneous Bodies, as Wood, Flocks, Linen, or Stuff as yet ſtick in the Wound; ſo that Endeavours may be us'd to take them out through the ſame Hole where they entred, Care being more eſpecially had to avoid making Dilacerations in drawing them out. But if the Operator hath endeavour'd to no purpoſe to remove theſe extraneous Bodies, let him make a counter-opening in the oppoſite Part, where he ſhall perceive any Hardneſs, nevertheleſs without touching the Veſſels: Thus the Inciſion being made, he may readily draw them out with his Fingers, or ſome Inſtrument.

If a Bullet is lodg'd ſo far in a Bone, that it can't be taken away without breaking the ſame Bone, it is more expedient to let it lie there: But if the Leg or Arm-bones are very much ſplit or ſhatter'd, then the Amputation of them becomes abſolutely neceſſary. The Pain and Inflammation of the part may be aſſuag'd by letting Blood, topical Anodynes, cooling Clyſters and Purgations: But in caſe much Blood hath been already loſt, Phlebotomy muſt be omitted. The Clyſters may be made with Decoctions of *Mercury*, Mallows, Beets, a Handful of Barley, and Honey of Roſes.

Some Surgeons are of opinion, that the Patient ought to be purg'd every other Day, and even on the very ſame Day that he receiv'd the Wound, if his Strength will

will permit: However very gentle Purges are to be us'd upon this Occaſion, ſuch as Caſſia, Manna, Tamarins, Syrup of Violets, and that of white Roſes.

In the mean while Anodynes may be us'd to mitigate the Pain; as Cataplaſms, or Pultiſſes made with the Crum of white Bread, Milk, Saffron, the Yolk of an Egg, and Oil of Roſes apply'd hot; which laſt Ingredient is of it ſelf a very good Remedy. But to aſſuage great Inflammations, Oil of Roſes, the White of an Egg, and Vinegar, beaten all together, may be laid on the neighbouring Parts.

At firſt it is neceſſary to apply ſpirituous Medicines to the Wound; and Pledgits, ſteep'd in Brandy camphirated, are admirable for that purpoſe: but if there be a Flux of Blood, ſtyptick Waters, or other aſtringent Remedies may be uſed, ſtill remembring that all theſe Medicaments muſt be apply'd hot.

To promote the Suppuration of theſe contuſed Wounds, a Digeſtive may be made of *Oleum Roſatum*, the Yolk of an Egg, and *Venice*-Turpentine.

If the Wound be in the Nerves, Tendons, or other Nervous Parts, it is requiſite to uſe ſpirituous and drying Medicines, never applying any Ointments, which will not fail to cauſe Putreſaction in thoſe Parts: But a Cataplaſm may be made with Barley Meal, *Orobus*, Lupins, and Lentils boil'd in Claret, adding ſome Oil of St. *John*'s-wort.

The Balſam of *Peru*, Oil of Turpentine diſtilled, Oil of Wax, diſtill'd Oil of Lavender, *Oleum Philoſophorum*, Oil of Bays diſtill'd, Balſam of St. *John*'s-wort, Spirit of Wine, and Gum *Elemi*, are excellent Medicaments for the Nerves. Or elſe,

Take four Ounces of *Unguentum Althææ*, with a Dram and a half of Chymical Oil of Bays; mingle the whole Compoſition, and apply it. Or elſe,

Take an Ounce of diſtill'd Oil of Turpentine, a Dram of Spirit of Wine, and half an Ounce of Camphire; let all be mix'd and dropp'd into the wound. Or elſe,

Take a Scruple of *Euphorbium*, half an Ounce of *Colophonia*, and a little Wax; let them be mingled together, and apply'd very hot to the Nervous Parts.

If the Wounds are deep, Injections may be made with this Vulnerary Water following, which is very good for all ſorts of Contuſions, as alſo for the Gangrene and Ulcers.

Take the leſſer Sage, the greater Comfrey, and Mugwort, of each four Handfuls; Plantain, Tobacco, Meadowſweet, Betony, Agrimony, Vervein, *St. John's-wort*, and Wormwood, of each Three Handfuls; Fennel, Pilewort, Bugle, Sanicle, Mouſe-Ear, the leſſer Daiſie, the leſſer Centaury, and All-heal, of each three Handfuls; three Ounces of round Birth-wort, and two Ounces of long: Let the whole Compoſition be digeſted during thirty Hours in two Gallons of good White-wine, and afterwards diſtill'd in *Balneo Mariæ*, till one third part be conſum'd.

If a Gangrene happens in a Part, Spirit of Motherwort may be apply'd to it, which is made with two Drams of Maſtich, Myrrh, *Olibanum*, and Amber, and a Pint of rectify'd Wine, the whole being diſtill'd.

This Fomentation may be apply'd very hot to a very good purpoſe, *viz.* an equal Quantity of Camphirated Wine and Lime-water, with three Drams of Camphire.

This is alſo an excellent Cataplaſm: Take a Pint of Lye, and as much Spirit of Wine, half a Handful of Rue, Sage, *Scordium*, and Wormwood, a Dram of each of the Roots of both ſorts of Birth-wort, and two Drams of *Sal Armoniack*. Let the whole Compoſition be boil'd till a third part be conſum'd; adding half a Dram of Myrrh and Aloes, and a little Brandy.

Of a Burn made by Gun-powder.

If the Burn be recent, and the Skin not ulcerated, Spirit of Wine or Brandy is to be immediately apply'd; or elſe an Ointment may be made with Oil of Olives, or bitter Almonds, Salt, the Juice of Onions, and Verjuice.

If the Skin be ulcerated and little Bladders or Puſtules ariſe, an Ointment may be compounded with the ſecond Bark of Elder boil'd in Oil of Olives. After it hath been

been ſtrained, add two parts of Ceruſs or white Lead, and one of burnt Lead, with as much Litharge, ſtirr'd about in a Leaden Mortar, as will make a Liniment. But it is not convenient to take out the Grains of Powder that remain in the Skin, becauſe they are apt to break, and to be more confounded or ſpred abroad; ſo that they muſt be left to come forth in the Suppuration.

When the Wound is ſuperficial, and the Skin as yet whole, pounded Onions with common Honey are an excellent Remedy; but if the Skin be torn, it is not to be uſed, by reaſon that the Pain would be too great; in which caſe Oil of Tartar *per Deliquium* hath a very good Effect.

If the Burn be accompany'd with a Fever, it may be allay'd with fixt Nitre, Nitre prepar'd with Antimony, and Gun-powder taken inwardly, which are very effectual in their Operation. Crabs Eyes prepar'd, and even ſome of them unprepar'd, are in like manner admirable Remedies.

As for external Medicaments, when the Burn is only ſuperficial, take Onions, and unſlack'd Lime, quench'd in a Decoction of Rape, and apply this Liquor very hot, with double Compreſſes dipt therein. Or elſe take what Quantity you pleaſe of quick Lime well waſhed, and beat it in a Leaden Mortar, with *May*-Butter without Salt, to make an Ointment, which may be laid altogether liquid upon the affected Part. Or elſe,

Take as much quick Lime as you can get up between your Fingers at two ſeveral times, Milk-Cream and clarifyed Honey, of each about half the like Quantity; let the whole be intermixed to the Conſiſtence of an Ointment, and applyed: It is an excellent Remedy. The following one is incomparable:

Take unſlacked Lime, and put it into common Water, ſo as the Water may riſe four or five Fingers above it. After the Effervеſcence, pour in Oil of Roſes; whereupon the whole Maſs will be coagulated in form of Butter, and may be applyed.

A good Lotion may be prepared with the Juice of Garlick and Onions, in recent Burns; or make uſe of this Ointment. Take an Ounce and an half of raw Onions, Salt, and *Venice*-Soap, of each half an Ounce;

mingle the whole Compoſition in a Mortar, pouring upon it a ſufficient quantity of Oil of Roſes. Or elſe,

Diſſolve *Minium* or Litharge in Vinegar, filtrate this Liquor, and add thereto a Quantity of Rape-Oil newly drawn off, ſufficient to give it the Conſiſtence of a liquid Liniment; then ſtir it about in a Leaden Mortar till it become of a grey Colour, and keep it for uſe as an excellent Liniment. Or elſe,

Pound Crey-Fiſhes or Crabs alive in a Mortar to get their Blood, and foment the Part with it hot; it is a good Remedy. Otherwiſe intermix the pounded Crabs with *May*-butter without Salt, and let them be boil'd up together, and skimm'd, till a red Ointment be made, which may be drawn off, and ſtrain'd for uſe. And indeed, all Medicinal Compoſitions wherein Crabs are an Ingredient, are true Specificks againſt Burns made by Gun-powder.

The Mucilages of the Seeds of *Pſyllium*, or rather thoſe of Quince-Seeds prepar'd with Frogs-Sperm, and a little *Saccharum Saturni*, ſpred with a Feather upon the affected Part, hath a wonderful Operation in Burns.

A Medicament compounded with one third Part of the Oil of Olives, and two of the Whites of Eggs well beaten and mix'd together, is a very ſimple and ſingular Remedy. Otherwiſe, take half an Ounce of Lin-ſeed Oil, and put into Roſe-water four Yolks of Eggs; beat them together, and let the whole be apply'd to the burnt Part.

If the Burn be very violent, and hath many Puſtules, *Etmullerus* is of Opinion that they ought to be open'd, and that an Ointment ſhould be immediately apply'd, which is made of Hens-Dung boil'd in freſh Butter. Otherwiſe,

Take a handful of freſh Sage-Leaves, two handfuls of Plantain, ſix Ounces of freſh Butter without Salt, three Ounces of Pullet's Dung newly voided, and the whiteſt that can be found, and a handful of Gooſe-Dung; then fry the whole Compoſition for a quarter of an Hour; ſqueeze it out, and keep it for uſe. Otherwiſe,

Take two Ounces of ſweet Apples roaſted under Embers, Barley-Meal, and Fenugreek, of each half an Ounce, and half a Scruple of Saffron; let the whole Maſs be

be mingled to make a Liniment or ſoft Cataplaſm, which may ſerve to aſſuage Pain, and mollifie the Skin.

If the Wonnd be yet larger, and hath a Scab, open all the Puſtules, and endeavour the two firſt Days to cauſe the Eſcar to fall off by the Application of a Liniment made of the Mucilages of Quince-Seeds ſteep'd in Frogs-Sperm, with Freſh Butter, the Oil of White Lilies, and the Yolk of an Egg. Otherwiſe,

Make a Liniment with freſh Butter well beaten in a leaden Mortar, with a Decoction of Mallows, which being ſpred upon hot Colewort-Leaves, and apply'd to the Eſcar, will haſten its Separation.

But if the Eſcar be too hard and obſtinate, it is requiſite to proceed to Inciſions to make way for the *Sanies*, leſt a deep and putrid Ulcer ſhould be engender'd underneath. As ſoon as the Humour is evacuated, the abovemention'd emollient Medicines may be us'd, till the Separation; then the Ulcer may be conſolidated with Digeſtives and Mundificatives; ſuch as the Ointment of Quick Lime, with Oil of Roſes, and the Yolks of Eggs. The white camphirated Ointment, and that of Alabaſter, are alſo good for the ſame purpoſe.

If a Gangrene enſueth, Sudorificks muſt be taken inwardly, ſuch as camphirated Spirit of Treacle, the Eſſence and Spirit of Elder-berries, the Spirit of Harts-Horn with its own proper Salt, *Venice*-Treacle in Spirit of Wine camphirated, or the diſtill'd Water of Scorpion, Harts Horn, Citron with Camphire, *&c.*

As for external Remedies in the beginning of the Gangrene, Spirit of Wine applied hot is excellent; and yet better, if Aloes, Frankincenſe, and Myrrh be infuſed therein. It ought alſo to be obſerved, that Camphire muſt always be mingled in the topical Medicines for the Cure of a Gangrene.

A Decoction of unſlack'd Lime, in which Brimſtone hath been boil'd, with *Mercurius Dulcis*, and Spirit of Wine, is a very excellent Remedy.

In a conſiderable Gangrene, after having made deep Scarifications, let Horſe-Dung be boil'd in Wine, and laid upon the Part in form of a Cataplaſm. This is an approv'd Remedy.

If a *Sphacelus* be begun, ſcarifie the Part, and apply thereto abundance of *Unguentum Ægyptiacum*, over and above the Ointments and Cataplaſms already deſcrib'd; remembring always, that when the Gangrene degenerates into a *Sphacelus*, all the mortify'd Parts muſt be incontinently ſeparated or cut off from the ſound.

CHAP. VII.

Of ULCERS *in general.*

WHAT is an Ulcer?

An Ulcer is a Rupture of the natural Union of the Parts made a long while ago, which is maintain'd by the *Sanies* that runs out of the Cavity; or an Ulcer takes its riſe from a Wound that could not be well cur'd in its proper time, by reaſon of the ill Quality of its *Pus* or corrupt Matter.

What difference is there between a Wound and an Ulcer?

It is this, that a Wound always proceeds from an external Cauſe, and an Ulcer from an internal, ſuch as Humours that fall upon a Part; or elſe a Wound by long remaining open degenerates into an Ulcer.

Whence is the difference of Ulcers derived?

It is taken from the Cauſes that produce them, and the Symptoms or Accidents with which they are accompany'd. Thus upon account of their Cauſes they are call'd Benign or Malignant, Great or Little, Dangerous, or Mortal; and by reaſon of their Accidents, they are term'd Putrid, Corroſive, Cavernous, Fiſtulous, Cancerous, &c.

Do Ulcers always proceed from external Cauſes, or from an outward Wound degenerated?

No, they ſometimes alſo derive their Origin from internal Cauſes, as the Acrimony of Humours, or their malignant Quality; the Retention of a Splinter of a

Bone,

Bone, and other things of the like Nature. These Ulcers are commonly called Primitive, and the others degenerate.

What are the Putrid, Corrosive, Cavernous, Fistulous, and Cancerous Ulcers?

The Putrid Ulcer is that wherein the Flesh is soft and crusty, the *Pus* and *Ichor* being viscous, stinking, and of a cadaverous smell.

The corrosive Ulcer is that which by the Acrimony and Malignity of its *Sanies*, corrodes, makes hollow, corrupts, and mortifies the Flesh.

The Cavernous Ulcer is that, the Entrance of which is strait and the bottom broad, wherein there are many Holes fill'd with malignant *Sanies*, without any callosity or hardness in its sides.

The fistulous Ulcer is that which hath long, strait, and deep Holes, with much hardness in its sides; the *Sanies* whereof is sometimes virulent, and sometimes not.

The cancerous Ulcer is large, having its Lips swoln, hard and knotty, of a brown Colour, with thick Veins round about, full of a livid and blackish sort of Blood. In the bottom are divers round Cavities, which stink extreamly, by reason of the ill Quality of the *Sanies* that runs out from thence.

Are there no other kinds of Ulcers?

Yes, there are also Verminous, Pocky, Scorbutick, those call'd *Chironia* and *Telephia*, and others, which have much affinity with, and may well be reckon'd among the five kinds already specify'd.

What are the means to be us'd in the curing of Ulcers?

Ulcers ought to be well mundify'd, dry'd, and cicatriz'd: But with respect to the several Causes and Accidents that render them obstinate, and difficult to be cur'd, it is also requisite to make use of internal Medicines, which may restrain and consume them. If their sides grow callous, they are to be scarify'd, in order to bring them to Suppuration; and if there be any Excrescences, they must be eaten away with corroding Powders, such as that of Allum; or by proper Caustick.

What are the Remedies proper to cleanse and dry up Ulcers?

To

To this purpoſe divers ſorts of Liquors may be us'd, as alſo Powders, and Plaiſters: The Liquors are uſually made of Briony-Roots, the greater Celandine, Lime, and the Yellow-water; a Tincture of Myrrh, Aloes, and Saffron, and Whey, whereto is added *Saccharum Saturni*; and the Ulcers may be waſh'd or bath'd with theſe Liquors; and very good Injections be compounded of them.

The Powders are thoſe of Meal, Worm-eaten Oak, Allum, and Cinnabar, the two laſt of theſe being us'd by throwing them upon Fire, and cauſing the Fume to be convey'd to the Ulcer thro' a Funnel. The Country-People often make uſe of Potters-Earth to dry up their Ulcers, with good Succeſs; but then they muſt not be of a Malignant Nature.

The Plaiſters are *Emplaſtrum de Betonica*, *Diaſulphuris*, *Deſiccativum Rubrum*, and others. And the Ointments are ſuch as theſe:

Take three Yolks of Eggs, half an Ounce of Honey, and a Glaſs of Wine, and make thereof a mundifying Ointment, according to Art. Otherwiſe,

Take Lime well waſh'd and dry'd ſeveral times: let it be mingled with Linſeed-Oil and Bole, and it will make an excellent Ointment to mundifie and dry: a little *Mercury Precipitate* may be intermixt, if you pleaſe, to augment the drying Quality; and *Mercurius Dulcis* may be added in the Injections.

For Ulcers in the Legs, and Cancerous Ulcers, take Plantain-Water, and Allum-Water, or elſe Spirit of Wine, *Unguentum Ægyptiacum*, and *Venice*-Treacle; or elſe an Extract of the Roots of round Birth-wort made in Spirit of Wine. Gun-powder alone diſſolv'd in Wine, is of ſingular uſe to waſh the Ulcers, and afterwards to wet the Pledgits which are to be apply'd to them. But here are two particular and ſpecifick Medicines to mollifie a Cancer:

Take *Saccharum Saturni*, Camphire, and Soot; let them be incorporated with the Juice of Houſe-Leek and Plantain, in a Leaden Mortar; then make a Liniment thereof; and cover the Part affected as lightly as is poſſible to be done, as with a ſimple Flaxen Cloth, or a Sheet of Cap Paper. Or elſe,

Take

Take the diſtill'd Water of rotten Apples, and mingle it with the Extract of the Roots of round Birthwort made in the Spirit of Wine, reſerving this Liquor to waſh the Part, and to make Injections.

CHAP. VIII.

Of Venereal Diſeaſes.

Of the Chaude-piſſe *or* Gonorrhæa.

THE Signs of this Diſeaſe are a painful Diſtention of the *Penis* or Yard, and a ſcalding Pain in making Water, the Urine being pale, whiteiſh, and full of Filaments or little Threads: Sometime the Teſticles are ſwell'd as well as the *Glans* and *Præputium*; and ſometimes there is a Flux of a kind of Matter yellowiſh, greeniſh, *&c.*

If there be a great Inflammation in the Yard, Endeavours muſt be us'd to allay it by letting Blood; and afterward the Patient may take a cooling and diuretick Diet-Drink, as alſo Emulſions made with cool Seeds in Whey. A very good Decoction may be prepar'd in all Places, and without any trouble, by putting a Dram of *Sal Prunella* into every Quart of Water, whereof the Patient is to drink as often as he can: This Decoction is very cooling and diuretick; and the Uſe of it ought to be continu'd till the Inflammation be aſſuag'd. Then ſome gentle Purges are to be preſcrib'd in the beginning; ſuch as an Ounce of *Caſſia*, and as much *Manna*, diſſolv'd in two Glaſſes of Whey, which are to be taken one or two Hours one after another.

Afterward the Patient muſt be often purg'd with twelve Grains of Scammony, and fifteen Grains of *Mercurius Dulcis*; and theſe Purgations muſt be continu'd, till it

it appears that the Fluxes are neither yellowiſh, nor greeniſh, nor of any other bad Colour. When they are become White, and may be drawn into a Thread, they may be ſtopt with Aſtringents: Amber and dry'd Bones beaten to Powder, eighteen Grains of each, with one Grain of *Laudanum*, the whole Compoſition being taken in Conſerve of Roſes, are very good for this purpoſe. *Crocus Martis aſtringens*, or elſe its Extract, taken from half a Dram to a whole Dram, in like manner performs the ſame Operation. As ſoon as the *Gonorrhæa* is ſtopt, to be certain of a perfect Cure, a Dram of the *Mercurial Panacea* is to be taken, from fifteen to twenty Grains at a time, in Conſerve of Roſes. In the mean while, if a ſmall Salivation ſhould happen, it muſt be let alone for the preſent, ſince it may be ſtopp'd at pleaſure by Purgations. When it is requiſite to reſtrain the *Gonorrhæa*, *Mercury* muſt not be given any longer, in regard that it is a Diſſolvent, which is only good when the Glandules of the Groins or Teſticles are ſwell'd, or elſe when it is expedient to ſet the *Chaudepiſſe* a running, after it hath been too ſuddenly ſtopt. At the ſame time that the Aſtringents are taken with the Mouth, Injections are alſo to be made into the Yard; ſuch as are prepar'd with *Lapis Medicamentoſus*, of which one Dram is put into eight Ounces of Plantain-water. All Aſtringents that are not Cauſticks, are proper for the Syringe.

Of Shankers.

They are round Ulcers, and hollow in the middle, which appear upon the *Glans* and the *Præputium*. To cure them, they muſt be touch'd with the *Lapis Infernalis*, and brought to Suppuration by the means of red Precipitate mix'd with the Ointment of *Andreas Crucius*. *Oleum Mercurii* laid on a Pledgit or Bolſter, is very good to open Shankers, and conſume their Fleſh. The Patient muſt be well purg'd with *Mercurius Dulcis* and Scammony, taking twelve or fifteen Grains of each in Conſerve of Roſes; and after theſe Purgations are ſufficiently repeated, he may take the *Mercurial Panaceas*. It is an excellent Remedy for all ſorts of Pocky Diſtempers

not

not yet conſummated, or arriv'd at the greateſt height of Malignity.

Of Buboes.

Buboes are groſs Tumours or Abſceſſes that ariſe in the Groin, the perfect Maturity of which is not to be waited for in order to open them; becauſe it is to be fear'd, leſt the corrupt Matter remaining therein too long, might be convey'd into the Blood by the Circulation, and ſo produce the Grand Pox: Therefore it is neceſſary to open them betimes with a Lancet, or elſe with Cauſticks, if they are too hard. They ought to be ſuppurated for a conſiderable time: The Patient muſt be well purg'd with Scammony and *Mercurius Dulcis*; he muſt alſo take the *Mercurial Panaceas*.

Of the Pox.

This loathſome Diſeaſe begins ſometime with a virulent *Gonorrhœa*, and a wearineſs or faintneſs at the ſame time ſeizeth on all the Members of the Body. It is uſually accompany'd with Salivation and the Head-ache, which grows more violent at Night: Pricking Pains are alſo felt in the Arms and Legs, and the Palate of the Mouth is ſometimes ulcerated. If it be an inveterate Pox, the Bones are corrupted, and *Exoſtoſes* happen therein; divers Spots, with dry, round, and red Puſtules, appear in the Skin; and the Cartilages or Griſtles of the Noſe are ſometimes eaten up. But when this Diſeaſe is come to its greateſt height of Malignity, the Hair falls off; the Gums are ulcerated; the Teeth are looſe, and drop out; the whole Body is dry'd up; the Eyes are livid; the Ears tingle; the Noſe becomes ſtinking; and the Almonds of the Ears ſwell; the *Vvula* or Palate is down; Ulcers break out in the Privy-Parts; Buboes ariſe in the Groin; as alſo Warts in the *Glans* and *Præputium*; and *Condylomus* in the *Anus*.

Indeed

Indeed the Pox may be eaſily cur'd in the beginning; but when it hath taken deep Root by a long continuance, it is not extirpated without much difficulty; more eſpecially if it be accompany'd with Ulcers, *Caries*, and *Exoſtoſes*; the Perſon afflicted with it having an ill Conſtitution, and his Voice grown hoarſe.

The Spring and Summer are the proper Seaſons of the Year for undertaking the Cure of this Diſeaſe. In order to which, it is neceſſary, that the Patient begin with a regular Diet, lodging in a warm Place, and taking ſuch Aliments as yield a good Juice; as Jelly-broth made with boil'd Fowl: Let him drink Sudorifick Decoctions, prepar'd with the Wood of *Guajacum*, *China*-Root, and *Sarſaparilla*, and let him abſtain from eating any thing that is high ſeaſon'd: Let him take Clyſters to keep his Body open; ſometimes alſo he may be let Blood, and purg'd with half a Dram of Jalap, and fifteen Grains of *Mercurius Dulcis*. The Purgations may be repeated as often as it ſhall be judg'd convenient; and then the Patient may be bath'd for nine or ten Days, every Morning and Evenning; during which time he may take volatile Salt of Vipers, the Doſe being from ſix to ſixteen Grains; or elſe Viper's Greaſe, from half a Dram to a whole Dram in Conſerve of Roſes.

Afterward it will be neceſſary to proceed to Fluxion, by Frictions with *Unguentum Mercurii*, which is made of crude *Mercury*, ſtirr'd about in a Mortar with Turpentine, and then the whole mingled with Hogs-Greaſe, one part of *Mercury* being uſually put into two parts of Hogs-Greaſe. The Rubbing is begun at the Sole of the Feet, aſcending to the Legs, and the inſide of the Thighs; but the Back-Bone muſt not be rubb'd at all. When the Perſons are tender, or of a weak Conſtitution, a ſingle Friction may ſometimes be ſufficient. Thus the Patient muſt be rubb'd at the Fire, after he hath taken a good Meſs of Broth: but I would not adviſe it to be done with more than one or two Drams of *Mercury* at a time, without reckoning the other Ingredients. The Patient muſt be rubbed with the hand, till none of the Greaſe appears upon him. Then he muſt be dreſs'd with a Pair of Linen Drawers, and laid in his Bed, where his Mouth may be look'd into from time to time,

time, to ſee whether the *Mercury* hath taken effect; which may be eaſily known, by reaſon that his Tongue, Gums, and Palate ſwell, his Head akes, his Breath is ſtrong, his Face red, and he can ſcarce ſwallow his Spittle; or elſe he begins to ſalivate.

If none of theſe Signs appear, the Rubbing muſt be begun again in the Morning and Evening: Then if no Salivation be perceiv'd, (for ſometimes four or five Frictions are made ſucceſſively) a little *Mercurial Panacea*, may be taken inwardly, to promote it. During the Frictions the Patient is to be nouriſh'd with Eggs, Broths, and Gellies, which he muſt take at leaſt every two hours. He muſt alſo keep his Bed in a warm Room, and never riſe till it ſhall be thought fit to ſtop the Salivation, which continues twenty or twenty five Days; or rather till it becomes Laudable, that is to ſay, till it be no longer ſtinking, nor colour'd, but clear and fluid.

If a Looſeneſs ſhould happen during the Salivation, it would ceaſe; ſo that to renew it, the Looſeneſs may be ſtay'd with Clyſters made of Milk and the Yolk of Eggs: And in caſe the Salivation ſhould not begin afreſh, it muſt be excited with a ſlight Friction: But if it ſhould be too violent, it may be diminiſh'd by ſome gentle Purge, or with four or five Grains of *Aurum Fulminans*, taken in Conſerve of Roſes.

Three or Four Pints of Rheum are commonly ſalivated every Day in a Baſin made for that purpoſe, which the Patient holds in his Bed near his Mouth, ſo as the Spittle may run into it. And a little Stick, with a linen Rag bound about it, muſt be put from time to time between the Teeth and the Cheeks, for fear the latter ſhould ſtick to the former, which frequently happens if this precaution be not taken. But if the Fluxing ſhould not ceaſe of it ſelf at the time when it ought, he muſt be purg'd to put a ſtop thereto. If any Ulcers remain in his Mouth, to dry them up, Gargariſms are to be often us'd, which are made of Barley-Water, Honey of Roſes, or lukewarm Wine.

The Warts are cur'd by tying them, if a Ligature be poſſible; or elſe they may be conſum'd with Cauſticks, ſuch as the Powder of Savine, or *Aqua Fortis*, taking care to preſerve the neighbouring Parts: Sometimes they are cut, left to bleed for a while, and then bath'd with warm Wine.

When

When the Patient begins to rise, he muſt be purg'd, his Linen, Bed, and Chamber being chang'd; and afterward his Strength is to be recruited with good Victuals and generous Wine. If he were too much weakened, let him take Cows Milk with *Saccharum Roſatum.*

If the Pox were not inveterate, the Fluxing might be excited by the *Mercurial Panacea* alone, without any Fritions. For after the Phlebotomy, Purgations, and Bleedings duly adminiſtred, the Patient might take ten Grains of this in the Morning, and as many at Night; on the next Day fifteen Grains might be given, and the like Quantity at Night; on the third Day, twenty Grains might be given both Morning and Evening: On the fourth Day, twenty five Grains in the Morning, and as many at Night; and on the fifth Day, thirty Grains in the Morning, and the very ſame Quantity in the Evening, continuing thus to augment the Doſe, till the Fluxing comes in abundance: And it may be maintain'd by giving every two or three Days twelve Grains of the ſame. This Courſe muſt be continually follow'd till the Salivation becomes Laudable and the Symptoms ceaſe.

The Manner of making the Mercurial Panacea.

To prepare this *Panacea*, it is requiſite to take *Mercury* reviv'd from *Cinnabar*, becauſe it is more pure than that which is immediately dug out of the Mine. The *Mercury* is revived after this manner: Take a Pound of artificial *Cinnabar* pulveriz'd, and mingled exactly with three Pound of unſlack'd Lime, in like manner beaten to Powder: Let this mixture be put into a Retort of Stone, or Glaſs luted, the third part of which at leaſt remains empty: Let it be placed in a reverberating Furnace; and having fitted a Recipient fill'd with Water, let the whole be left during twenty four Hours at leaſt: Then let the Fire be put under it by degrees, and at length let the Heat be very much augmented, whereupon the *Mercury* will run drop by drop into the Recipient: Let the Fire be continu'd till nothing comes forth, and the Operation will be perform'd generally in ſix or ſeven Hours: Then pour the Water out of the

Re-

Recipient; and having wash'd the *Mercury*, to cleanse it from some small Quantity of Earth that may stick to it, let it be dry'd with Cloths, or else with the Crum of Bread: Thus thirteen Ounces of *Mercury* may be drawn off from every Pound of artificial Cinnabar.

The *Panacea* is made of sweet Sublimate, and this of corrosive Sublimate. To make the corrosive Sublimate, put sixteen Ounces of *Mercury* reviv'd from Cinnabar into a Matrass; pour upon it eighteen Ounces of Spirit of Nitre; place the Matrass upon the Sand, which must be somewhat hot, and leave it there till the Dissolution be effected: Then pour off this Liquor, which will be as clear as Water, into a Glass Vial, or into a Stone Jug, and let its Moisture evaporate gently over a Sand-Fire, till a white Mass remains; which you may pulverize in a Glass-Mortar, mingling it with sixteen Ounces of Vitriol calcin'd, and as much decrepitate Salt: Put this Mixture into a Matrass, two third Parts of which remain empty, and the Neck of which hath been cut in the middle of its Height; then fix the Matrass in the Sand, and begin to kindle a gentle Fire underneath, which may be continued for three Hours; afterwards let Coals be thrown upon it till the Fire burn very vehemently, and a Sublimate will arise on the top of the Matrass; so that the Operation may be perform'd within the Space of six or seven Hours. Let the Matrass be cool'd and afterward broken; avoiding a kind of Flower or light Powder, which flies up into the Air as soon as this Matter is remov'd; whereupon you'll find nineteen Ounces of very good corrosive Sublimate; but the red *Scoria* or Dross which settles at the bottom must be cast away as unprofitable. This Sublimate being a powerful *Escarotick*, eats away proud Flesh, and is of singular Use in cleansing old Ulcers. If half a Dram thereof be dissolv'd in a Pint of Lime-water, it gives a yellow Tincture; and this is that which is call'd the *Phagædenick Water*.

The sweet Sublimate, of which the *Panacea* is immediately compos'd, is made with sixteen Ounces of corrosive Sublimate, pulveriz'd in a Marble or Glass Mortar, intermixing with it by little and little, twelve Ounces of *Mercury* reviv'd from Cinnabar: Let the Mixture be stirr'd about with a wooden Pestle, till the Quick-silver becomes imperceptible; then put the Powder, which will be of a

grey Colour into divers Glaſs Vials, or into a Matraſs, of which two third Parts remain empty; place your Veſſel on the Sand, and kindle a ſmall Fire in the beginning, the Heat of which may be afterward increas'd to the third Degree: Let it continue in this Condition till the Sublimate be made; and the Operation will be generally conſummated in four or five Hours: Whereupon you may break your Vial, and throw away as uſeleſs, a little light Earth that lies at the bottom. You muſt alſo ſeparate that which ſticks to the Necks of the Vials, or of the Matraſs, and keep it for Ointments againſt the Itch; but carefully gather together the white Matter which lies in the middle, and having pulveriz'd it, cauſe it to be ſublimated in the Vials or Matraſs, as before. This Matter muſt alſo be ſeparated again (as we have already ſhewn) and put into other Vials to be ſublimated a third time. Laſtly, the Terreſtrial Parts in the bottom, and the Fuliginous in the Neck of the Vials, muſt be, in like manner, ſeparated, ſtill preſerving the Sublimate in the middle, which will then be very well dulcify'd, and amount to the Quantity of twenty five Ounces and an half. It is an efficacious Remedy for all ſorts of Venereal Diſeaſes, removes Obſtructions, kills Worms, and purgeth gently by Stool, being taken in Pills, from ſix Grains to thirty.

Of the proper Compoſition of the Mercurial Panacea.

Take what Quantity you pleaſe of ſweet Sublimate, reduce it to Powder in a Marble or Glaſs Mortar, and put it into a Matraſs, three quarters whereof remain empty, and of which you have cut off the Neck in the middle of its height: Then place this Matraſs in a Furnace or *Balneum* of Sand, and make a little Fire underneath for an Hour, to give a gentle Heat to the Matter, which may be augmented by little and little to the third Degree: Let it continue in this ſtate about five Hours, and the Matter will be ſublimated within that ſpace of time. Then let the Veſſel cool, and break it, throwing away as unprofitable, a little light ſort of Earth, of a reddiſh Colour, which is found at the bottom, and ſeparating all the Sublimate from the Glaſs. Afterward pulverize it a ſecond time,

time, and let it be ſublimated in a Matraſs as before: Thus the Sublimations muſt be reiterated ſeven ſeveral times, changing the Matraſſes every time, and caſting away the light Earth. Then having reduc'd your Sublimate to a very fine impalpable Powder, by grinding it upon a Porphyry or Marble Stone, put it into a Glaſs Cucurbit, pour into it alkaliz'd Spirit of Wine to the height of four Fingers; cover the Cucurbit with its Head, and leave the Matter in Infuſion during fifteen Days, ſtirring it about from time to time with an Ivory *Spatula*. Afterward ſet your Cucurbit in *Balneo Mariæ*, or in a vaporous Bath; make fit a Recipient to the Mouth of the Alembick; lute the Joints exactly with a moiſtened Bladder, and cauſe all the Spirit of Wine to be diſtill'd with a moderate Fire: Let the Veſſels be cool'd and unluted, and the *Panacea* will appear at the bottom of the Cucurbit. If it be not already dry enough, you may dry it up with a gentle Fire in the Sand, ſtirring it with an Ivory or Wooden *Spatula* in the Cucurbit it ſelf, till it be reduc'd to Powder. It muſt be kept for uſe in an Earthen Veſſel, as a Remedy of very great Efficacy for all ſorts of Venereal Diſeaſes, as alſo for Obſtructions, the Scurvy, *Scrophula* or King's-Evil, Tetter, Scab, Scurf, Worms, *Aſcarides*, inveterate Ulcers, *&c.* The Doſe is from ſix Grains to two Scruples, in Conſerve of Roſes.

A TREATISE OF THE DISEASES OF THE BONES.

CHAP. I.

Of the Diſlocation of the Bones.

WHAT are the Diſeaſes incident to the Bones?

They are Five in number, *viz.* Diſlocation, Fracture, *Caries* or Ulcer, *Exoſtoſis*, and *Nodus*.

What is a Diſlocation or Luxation?

It is the ſlipping of the Head of one Bone out of the Cavity of another, which diſables the Part from performing its Natural Motion: Or elſe it is the disjointing of two Bones united together for the Motion of a Part.

How many Cauſes are there of Diſlocation in general?

Two, that is to ſay, one violent, and the other gentle: thus the Diſlocation is made violently in Falls, Strains, Knocks, and Blows; but it is done gently and ſlowly by a Fluxion of Humours, as well as by a gradual Collection of them between the Joints, and upon the Ligaments, the Relaxation or Looſening of which gives occaſion afterward to the Head of the Bone to go out of its Place; whence this Conſequence may well be drawn, *viz.* That a violent Diſlocation uſually depends upon an external Cauſe, and a ſlow one upon an internal.

After how many manners doth a Diſlocation happen?

Two ſeveral ways, *viz.* the firſt is call'd compleat, total, and perfect; and the ſecond incompleat, partial, and imperfect: But both may happen before, behind, on the inſide, and without; and may alſo be ſimple or complicated.

What are the Signs of a perfect, total, and compleat Diſlocation?

It is when a hard Tumour or Swelling is perceived near a Hole in the Place of the Joint, great Pain being felt in the Part, and the Motion of it aboliſh'd.

What are the Signs of an imperfect, partial, and incompleat Diſlocation?

It is when the Motion is ſtraightened, and weaker than ordinary, ſo that ſome Pain is felt in the Joint, and a Deformity may be diſcern'd therein, by comparing the hurt Part with the oppoſite which is ſound: This Diſlocation is otherwiſe call'd a Sprain, when it proceeds from an external Cauſe; or elſe it is term'd a Relaxation, when it happens by an internal.

What is a ſimple, and what is a complicated Diſlocation or Luxation?

The Diſlocation is properly ſimple, when it hath no concomitant Accidents; and it is complicated when accompany'd with ſome ill Symptoms or Accidents, ſuch as Swellings, Inflammations, Wounds, Fractures, *&c.*

What are the Means proper to be us'd in a ſimple Diſlocation?

A ſpeedy and ſimple reducing thereof, which is perform'd by extending the diſlocated or luxated Member, and thruſting back the Head of the Bone into its natural Place. Afterward the Joint muſt be ſtrengthened with a Fomentation made with *Provence*-Roſes, the Leaves of Wormwood, Roſemary, Camomile, St. *John*'s-wort, and Oak-Moſs, boil'd in the Lees of Wine and Forge-Water, keeping the Part well bound up, and ſuſtain'd in a convenient ſituation. But if any ill Conſequence is to be fear'd, apply *Emplaſtrum Oxycrocium*, or *Diapalma* diſſolv'd in Wine.

What is to be done in a complicated Diſlocation?

The Accidents muſt be firſt remov'd, and then the Bone may be ſet, which is impoſſible to be done otherwiſe; it being dangerous even to make an Attempt before, by reaſon of the too great Violence with which it is effected, and which would infallibly produce a Convulſion or a Gangrene.

If the Diſlocation be accompany'd with a Wound, muſt the Wound be cur'd before any Endeavours are us'd to reduce it?

No, but the Symptoms of the Wound, which hinder the Operation, muſt be taken away, as the Swelling, Inflammation, and others of the like Nature; and then it may be reduc'd, and the Wound may be dreſt according to the uſual Method.

If a Diſlocation be complicated with a Fracture, what is to be done then?

It is neceſſary to begin with reducing of the Diſlocation, and afterward to perform that of the Fracture, by reaſon of the Extenſion which muſt be made to reduce the Diſlocation, which would abſolutely hinder the Settling of the Fracture.

How is the Inflammation and Swelling to be aſſuag'd?

With Linen Cloths dipt in Brandy and common Water, which muſt be often renew'd; or elſe with the Tops of Wormwood and Camomile, with Sage and Roſemary boil'd in the Lees of Wine, wherein the Compreſſes and Bands are to be ſteep'd. But all Repellants and Aſtringents muſt be avoided.

How doth it appear that the Reduction is well perform'd?

By the re-eſtabliſhment of the Part in its natural State, by its being free from Pain, by its regular Motion, and by its conformity to the oppoſite Part which is ſound.

What Diſlocations of Parts are moſt difficult to be reduc'd?

Thoſe of the Thighs with the Hip-Bones, which are almoſt never perfectly ſet; that of the firſt *Vertebra* is extremely difficult to be reduc'd; and thoſe of the lower Jaw and Soles of the Feet are mortal.

The reducing of Diſlocations is perform'd with greater facility in Infants than in Perſons advanc'd in Years; but it becomes more difficult when it is deferr'd for many Days, by reaſon of the overflowing of the *Lympha* and nutritious Juice.

If an Inflammation ſhould happen before the Member is reduc'd, nothing can be done till it be allay'd, as we have already intimated: but to prevent and mitigate it, the diſlocated Joint, and the neighbouring Parts, may be bath'd with luke-warm Wine, in which hath been boil'd the Tops of St. *John*'s-wort, Camomile, Woolblade, Roſemary, *Stœcas Arabica*, and other ingredients of the like Nature; the Bands muſt be alſo ſteep'd in the ſame Liquor.

If an *Oedematous* Tumour ariſe in the luxated Member, after the Joint hath been ſet, it is requiſite to take internal Sudorificks, and to apply Liniments made with the diſtill'd Oil of Tartar, and of Humane Bones, which may be rectify'd with burnt Harts-horn, or ſome other part of Animals, to take away its ſtink: Or elſe take yellow Wax and very white Roſin, melt the whole Maſs, and put into it white Amber and Gum *Elemi*, a ſufficient quantity of each, to make a Compoſition to be incorporated with Balſam of *Peru*; a Plaiſter of which may be prepar'd, and apply'd to the diſlocated Member; but the Plaiſter muſt not be laid acroſs, leſt it ſhould contract the Part too much. The whole Member may alſo be anointed with Oil of St. *John*'s-wort, or with the diſtill'd Oil of Turpentine; or rather, with a ſimple Decoction of Nervous Plants in Wine.

If the Bone be put out of its place by a coagulated ſort of matter like Mortar or Plaiſter, Reſolutives and Attenuants are to be us'd, ſuch as the volatil Spirit of Tartar prepar'd with

with the Lees of Wine, volatil Spirit of Tartar distill'd with Nitre in a Retort with a long Neck, or Spirit of Tartar prepar'd by Fermentation with Tartar and its proper *Alkali*: This last is the best of all, and the use thereof ought to be continu'd. The volatil Salt of Humane Bones is also very efficacious; but it is necessary to begin first with the taking of Laxative and Sudorifick Medicines, appropriated according to the respective Circumstances. The Spirit of Earth-Worms may be also apply'd outwardly, which is made by Fermentation, and may be often laid on the Part, either alone, or with the Spirit of *Sal Armoniack*.

If a dislocated Bone be not set in good time, a *Coagulum*, or kind of curdled Substance, is form'd in the Cavity, which hinders the reducing of it to its place; but this *Coagulum* may be dissoly'd with the following Medicament, before you attempt to set the Bone. Take one part of the distill'd Oil of Human Bones, two parts of fœtid Oil of Tartar; mingle the whole, and add quick Lime to be distill'd in a Retort: Let the Parts be fomented with this Oil.

If the Dislocation happened by the Relaxation of the Ligaments, recourse may be had to universal Sudorificks taken inwardly; as also to such Medicines as are full of an unctuous and volatil Salt, particularly aromatick Oils, and Spirit of *Sal Armoniack*. In the mean while Aromaticks, Resolutives, and moderate Astringents may be apply'd outwardly.

CHAP.

CHAP. II.

Of the Fractures of Bones.

WHat is the Fracture of a Bone?

It is the Diviſion of the Continuity of its Parts.

After how many different manners may a Bone be broken?

Four ſeveral ways, *viz.* croſs-wiſe, ſide-wiſe, in its length, and perhaps in Shatters or Splinters.

By what means may a Bone be fractur'd?

It may happen to be done by three ſorts of Inſtruments, *viz.* ſuch as are fit for bruiſing, cutting, or wreſting; that is to ſay, a Bone may be divided in the Continuity of its proper Parts, by Contuſion, Inciſion, or Contorſion.

How is the Fracture of a Bone diſcover'd?

Divers ways, *viz.* by the ill appearance of the Part, which becomes ſhorter; by its want of Motion; by its flexibility or pliantneſs elſewhere than in its Articulations; by the unevenneſs that may be perceiv'd in its Continuity; by the cracking which is heard; ſometimes alſo by the ſhooting forth of one of its ends through the Fleſh which it hath open'd; and laſtly, by a Compariſon made thereof with the ſound Part on the other ſide, as that of the Right Arm with the Left.

What kind of Fracture is moſt difficult to be diſcerned?

It is that which happens in the length of the Bone, commonly call'd a Cleft or Fiſſure, which gives occaſion to very great Misfortunes when it is unknown: But it may be found out by the Pain and Swelling felt at the bottom of the Cleft in touching it; beſides the Conjectures which may be made from the Relation of the Perſon who hath had a Fall, and might have heard the cracking of the Bone.

What ſort of Fracture is moſt difficult to be cur'd?

The ſhattering or ſplitting of a Bone in pieces, by reaſon of the great number of Splinters, which daily cauſe new Pains and Suppurations

What

What is a ſimple, and what is a complicated Fracture?

The ſimple Fracture is that whereby the Bone is broken, without any other Accident; and the complicated Fracture is that which is follow'd by ſome Accident; as that in which there is a ſplitting of the Bone in pieces, or where the Bone is broken in two ſeveral places, or elſe when the Fracture is accompany'd with a Luxation, a Wound, an Inflammation, or other Circumſtances of the like Nature.

Are old Men or Children moſt ſubject to the Fractures of the Bones?

Old Men, becauſe their Bones are drier; whereas thoſe of Infants are almoſt cartilaginous, and yield or give way to the violence offer'd to them; from whence proceeds the ſinking and hollowneſs that happens in their Skull, eſpecially in the Mould of their Heads, or elſewhere; for which a Remedy is found out by the means of Plaiſters, Splints, and Bandages, fitted to the ſhape of the Parts. It is alſo on the ſame Account that Bones are more eaſily broken in the Winter, than in the Summer.

In what Parts are the Fractures of the Bones moſt dangerous?

They are thoſe that happen in the Skull and Joints: in the former, by reaſon of the Brain; and in the latter, in regard of the nervous Parts.

What Courſe is to be taken by a Surgeon who is ſent for to cure a Fracture?

He ought to do three things, that is to ſay, at firſt he muſt inceſſantly endeavour to reduce it, to the end that Nature may re-unite the Parts with greater Facility, and that the Extremities may be brought together again with leſs trouble, before a Swelling, Inflammation, or Gangrene happen in the Part. Afterward he is to uſe means to retain the Parts in their proper Figure, and natural Situation, and to prevent all ſorts of Accidents.

How is the ſetting of a broken Bone to be perform'd?

When the Fracture is croſs-wiſe, it muſt be reduc'd by Extenſion and Contra-extenſion; and when it is in length, the Coaptation or bringing together again of the Sides, is only neceſſary.

What

What is to be done in a Fracture complicated with a Wound?

The Operator muſt firſt reduce it, and then adminiſter the other Helps, as in a ſimple Fracture.

How may it be known that the reducing of the Fracture is well perform'd?

When the Pain ceaſeth; when the Part hath reſum'd its natural Shape; when no Unevenеſs is any longer perceiv'd therein; and when it is conformable to the ſound Part on the other ſide.

What are the Signs which ſhew that the Splinters remain in the Fracture, after it hath been reduced?

They are the ſecret and continual Workings of the Fibres, or Twitchings, that are felt by Intervals in the Part, with great Pains, which are the Indications of an Abceſs ariſing therein; and when a Wound is join'd to the Fracture, the Lips of it are puffed up, and become more ſoft and pale, the purulent Matter abounding alſo more than ordinary.

When Splinters appear, muſt they be drawn out by force?

By no means; for great Care ought to be taken to avoid all manner of violent Operations; it being requiſite, to wait for their going out with the purulent Matter; or at moſt to facilitate their Paſſage by the uſe of Injections of the Tincture of Myrrh and Aloes, by the Application of *Emplaſtrum Andreæ Crucii*, and by the help of the *Forceps*.

How is a ſimple Fracture to be dreſs'd, after it hath been reduc'd?

The Parts are to be ſtrengthened and conſolidated with Liniments of *Oleum Lumbricorum*, or of Oil of St. *John*'s-wort mingled with Wine, or Brandy, with Fomentations of Red Roſes, Roſemary, and St. *John*'s-wort boil'd in Wine; and with *Emplaſtrum contra Rupturam*, or *de Betonica*, carefully wrapping up the broken Member, but after ſuch a manner that the two Extremities may not croſs one another; and that a ſmall Space may remain open between both. Afterward the Splints and Bands are to be apply'd, taking care to avoid binding them too hard, and to take them off every three Days, in order to refit them, to abate troubleſome Itchings, and to give Air to the Part; by theſe means pre-

preventing the Gangrene, which might happen by the Suffocation of the natural Heat. If the Thighs or Legs are broken, Scarves are to be us'd to ſupport and ſtay them in the Bed.

What ſpace of time may there be allow'd for curing the Fracture of a Bone?

The Cure will take up more or leſs time, according to the variety of the Parts, or the different thickneſs of the Bones. Thus to form the *Callus* of the broken Jaw-bone, twenty Days may well be allotted; for that of the Clavicle, or that of the Shoulder-bone, twenty four; for that of the Bones of the Elbow, thirty; for that of the Arm-bone, forty; for that of the Wriſt-bone, and thoſe of the Fingers, twenty; for that of the Ribs, twenty; for that of the Thigh-bone, fifty; for that of the Leg-bone, forty; for that of the Bones of the *Tarſus* and Toes twenty.

What ought to be done in particular to promote the Formation of the Callus?

The Fractur'd Part muſt be rubb'd with *Oleum Lumbricorum* and Spirit of Wine, heated and mingled together: The Decoction of Agrimony, Savine, and Saxifrage are alſo to be us'd. The *Lapis Oſteocolla* is a Specifick: It is uſually given in great Comphrey-Water, or in a Decoction of Periwinkle made with Wine, and is often reiterated.

CHAP. III.

Of the particular Fractures of the Skull.

WHAT is a Fracture of the Cranium *or Skull?*

It is a Wound of the Head complicated with a Fracture of the Skull-bone.

After how many manners may the Skull be fractur'd?

Three ſeveral ways, *viz.* by Contuſion, by Inciſion, and by Puncture.

What

What is the moſt dangerous of theſe Fractures?

That which happens by Contuſion; becauſe the Concuſſion and Commotion is greater.

Do all the Fractures of the Skull require the uſe of the Trepan?

No, the Fractures muſt be deep which ſtand in need of the help of ſuch an Inſtrument; for thoſe that are ſuperficial may be cur'd by a ſimple Exfoliation.

What is that deep Fracture wherein the uſe of the Trepan is abſolutely neceſſary?

It is that which is made in the two Tables of the Skull, penetrating to the *Meninges* of the Brain; upon which at that time the Blood is extravaſated, and muſt be remov'd by the Operation of the Trepan.

How may it be diſcover'd that the two Tables of the Skull are broken?

By Inſpection, and by Reaſoning.

Are not the Eyes ſufficient alone, and are they not more certain than Reaſoning?

Yes; but foraſmuch as things are not always ſeen, there is often a neceſſity of making uſe of rational Deductions, to find out that which the Eyes cannot diſcern.

When doth it happen that the Eyes alone diſcover the Fracture?

When the Wound is large and wide, ſo that it may be immediately view'd.

When doth it happen that Reaſon ſupplies the defect of the Eyes?

When the Wound is ſo ſmall, that the Bone cannot be ſeen, and nothing appears but the Accidents.

What are the Accidents or Signs of the Fracture of the Skull?

They are a Dimneſs of the Sight, and loſs of the Underſtanding, which happen at the very Moment, when the Fall or Blow is receiv'd, with the Vomiting of Choler that follows ſoon after: Theſe Signs are call'd *Univocal.* And there are others call'd *Equivocal,* and which confirm the former; as a Flux of Blood thro' the Noſe, Eyes, and Ears, redneſs of the Eyes, heavineſs of the Head, and puffing up of the Face; as alſo afterward Drowſineſs, ſhivering of the whole Body, Fever, *Deliriums,* Convulſions, *&c.*

Muſt

Muſt all theſe Signs appear before a Determination can be made of the neceſſity of uſing the Trepan?

No, it is ſufficient to have the Univocal Signs to make a Crucial Inciſion in the place of the Wound, and to lay bare the Bone, in order to obſerve the Fracture, which ſometimes is ſo fine, that the Operator is oblig'd to make uſe of Printers Ink, which inſinuates it-ſelf into the Cleft, and of a particular Inſtrument, with which the black Line that hath penetrated to the bottom cannot be rubb'd out, when the Fracture is complete; whereas it may be eaſily defac'd when the Fracture is only ſuperficial.

How long time is commonly ſpent before the appearing of the Accidents?

In the Summer Seaſon they appear in three or four Days, and at the lateſt in ſeven; in Winter they are ſlower, and ſometimes do not happen till the fourteenth Day: But at the end of this term, it may be affirm'd that the Trepan is often unprofitable.

What it requiſite to be done in this doubtful Seaſon? muſt the Trepan be apply'd or omitted?

The Surgeon is to have recourſe to his own Conſcience and Diſcretion, which ought to ſerve as a Guide, and requires that he ſhould always act according to the known Rules of Art; inſomuch that after having well conſider'd the Accidents, with all the Circumſtances of the Wound, if there be no good Grounds for undertaking of the Operation, it is expedient to deſiſt, and in this caſe to have deference to the Advice of other able Surgeons of the ſame Society, rather than to rely too much upon his own Judgment, to the end that he may always be ſecure from all manner of Blame.

Is the Trepan apply'd upon the Fracture?

No; but on one ſide of it, and always in a firm place.

What courſe is to be taken when a Fracture is found upon the Sagittal or Lambdoidal Suture?

A double Trepan is to be made and apply'd on each ſide of the Suture, by reaſon of the effuſion of the Blood which may happen therein.

What Method ought to be obſerv'd in the curing of the Wounds of the Head, and of the Fractures of the Skull?

In

In ſimple Wounds of the Head, it is neceſſary only to make uſe of Balſams, and to lay over them *Emplaſtrum de Betonica.* When there is a Contuſion, either in the *Pericranium*, or in the Skull, the Wound muſt be kept open till after Suppuration or Exfoliation.

When there is only a Bunch without any Wound or Accident, it muſt ſpeedily be diſſolv'd with Parget, Chimney-Soot, Oil of Olives, and Wine, laid upon the Part between two linen Rags; or elſe with Soot, Spirit of Wine, and Oil of St. *John*'s-wort, wherein the Bolſters are ſoak'd, to be in like manner apply'd with a Band.

Wounds of the Head accompany'd with a Fracture, abſolutely require the application of the Trepan, wherein it is requiſite to make uſe of Oil of Turpentine, which may diſtill upon the Membranes of the Brain; or elſe of Spirit of Wine mingled with Oil of Almonds, and not with the Oil of Syrup of Roſes; and to endeavour to cauſe a plentiful outward Suppuration.

Beſides, it muſt not be neglected to injoin the wounded Perſon to be let Blood both before and after the Operation, if he hath a Fever, or a Plethory; and more eſpecially it is to be remembred, to cauſe his Body to be kept open at leaſt every other Day with Clyſters, obliging him him to keep a good Diet, and to avoid all violent Agitations both of Body and Mind, abſtaining from eating Fleſh till the fourteenth Day. All manner of Venery and Conjugal Embraces, which prove fatal at this time, are to be prohibited during forty Days, to be counted from the Day of the Operation; as they are alſo in all other conſiderable Wounds.

CHAP.

CHAP. IV.

Of the Caries *or Ulcer of the Bones,* Exoſtoſis, *and* Nodus.

What is the Caries ?

It is the Putrefaction of the Subſtance of the Bone, or elſe its Ulcer or Gangrene.

Whence doth the Caries *of the Bone derive its Original ?*

It proceeds from an internal and an external Cauſe: the former being that which hath been produc'd at firſt in the Subſtance of the Bone; and the other that which takes its Riſe from an inveterate Ulcer in the Fleſh, which hath communicated its Malignity to the Subſtance of the Bone, and by that means corrupted it.

How is the Caries *known, which proceeds from an inward Cauſe ?*

By the continual and violent Pains which are felt before, and continue for a long time without diminution; as alſo afterward, by the alteration of the Fleſh that covers the Bone, and which becomes ſoft, ſpongy, and livid.

By what means is a Caries, *that derives its Original from an outward Cauſe, diſcover'd ?*

By the quality of the purulent Matter that iſſueth out of the Ulcer in the Fleſh, which is blackiſh, unctuous, and extremely ſtinking; as alſo by the help of the Probe, that diſcovereth an Aſperity or Roughneſs in the Bone when it is laid bare.

What Means are to be us'd in order to cure a Caries *proceeding from an external Cauſe ?*

The Powder of Flower-de-Luce may be us'd, and it is ſufficient for that purpoſe, when the *Caries* is ſuperficial: but it is neceſſary to take *Oleum Guaiaci*, and to ſoak Pledgits therein, to be laid upon the Ulcer, when it is deep; or elſe Brandy, in which have been infus'd the Roots of Flower-de-Luce, Cinnamon, and Cloves. Laſtly, the Actual Cautery, which is Fire, muſt be apply'd thereto.

What is to be done when the Caries *proceeds from an internal Cauſe?*

The Fleſh muſt be open'd to give paſſage to the *Sanies* that runs out of the ulcerated Bone, to the end that exfoliation may be procur'd; and if the Ulcer hath not as yet laid open the Bone on the outſide, the Trepan ought to be apply'd: but the Ulcer or *Caries* muſt be afterward handled, as we have even now declar'd.

What is Exoſtoſis?

It is the Swelling of a Bone made by the ſettling of a corrupt Humour filtrated into its proper Subſtance.

What is a Nodus?

It is a kind of gummy and wavering Tumour, which is form'd by the ſettling of a groſs Humour between the Bone and the *Perioſteum.*

Are Exoſtoſes *and* Noduſes *ſuppurable Tumours?*

Yes, becauſe they ſometimes produce Ulcers and Gangrenes in the Bone, which are call'd *Caries* proceeding from an internal Cauſe; nevertheleſs they are generally diſſolv'd by Frictions with *Unguentum Griſeum*, or by the application of Plaiſters of Tobacco, or *Emplaſtrum de Vigo quadruplicato Mercurio*; taking alſo to the ſame purpoſe internal Diaphoreticks, and Sudorifick Medicines, with convenient Purgatives.

There is printed, at the end of *The Compleat Oſteology*, which is the ſecond Volume of this Book, a very fine Treatiſe concerning the Diſeaſes of the Bones, commonly aſcribed to the famous *M. du Verney*, Anatomiſt in the King's-Garden.

CHAP.

CHAP. V.

Of Veſicatories, Cauteries, Setons, Cupping-Glaſſes, and Leeches.

WHat is a Veſicatory?

The Name of Veſicatory may be attributed to every thing that is capable of raiſing Bladders or Bliſters in the Skin; nevertheleſs in Surgery, by a Veſicatory is underſtood a Medicament prepar'd with *Cantharides* or *Spaniſh* Flies dry'd, which are beaten to Powder, and mingled with Turpentine, Parget, Leaven, and other Ingredients.

In what Places, and after what manner, are Veſicatories uſually apply'd?

They are apply'd every where, according as there is occaſion to draw out or diſcharge ſome Humour from a Part: In Defluctions of Rheum upon the Eyes or Teeth, they are laid on the Neck and Temples; in Apoplexies, behind the Ears; and ſo of the reſt; obſerving always to make Frictions on the Places where the Application is to be made, to the end that the Veſicatory may ſooner take effect.

How long time muſt the Veſicatories continue on the Part?

The Bliſters are generally rais'd by them within the ſpace of five or ſix Hours; yet this Operation depends more or leſs upon the Fineneſs of the Skin, and the ſtrength of the Veſicatory: and when the Bladders or Bliſters appear, it is requiſite to defer the opening of them for ſome time, to the end that Nature may have an Opportunity to introduce a new Scarf-Skin, by which means the Pain may be avoided that would be felt, if the Skin were too much expos'd too the Air.

What is a Cautery?

It is a Compoſition made of many Ingredients, which corrode, burn, and make an Eſcar on the Part to which they are apply'd.

How many ſorts of Cauteries are there in general?

There two kinds, *viz.* the Actual, and the Potential: the former are those that have an immediate Operation, as Fire, or a red-hot Iron; and the others are those that produce the same Effect, but in a longer space of time, such are the ordinary Cauteries compos'd of Caustick Medicaments.

Which are the most safe, the Actual, or the Potential Cauteries?

A distinction is to be made herein: for Actual Cauteries are safest in the Operation, because they may be apply'd whereſoever one shall think fit, as also for as long a time, or for any Purpose; whereas the Potential cannot be guided after the same manner. But in Hæmorrhages, the Potential Cauteries are most eligible, by reason that the Escar produc'd by them not being so speedily form'd, the Vessels are better closed, and they are not so subject to open again when it falls off; as it often happens in the fall of an Escar made by Fire.

In what Places are Cauteries usually apply'd?

In all Places where an Attraction is to be made, or an Intemperature to be corrected, or a Flux of Humours to be stopt, by inducing an Escar on the Part: However, they are commonly laid upon the Fountain of the Head; on the Nape of the Neck, between the first and second *Vertebræ*; on the outward Part of the Arm, in a small Hole between the Muscle *Deltoides* and the *Biceps*; above the Thigh, between the Muscle *Sartorius*, and the *Vastus Internus*; and on the inside of the Knee, below the Flexors of the Leg; observing every where that the Cautery be plac'd near the great Vessels, to the end that it may draw out and cleanse more abundantly.

What is the Composition of the Potential Cauteries?

They may be made with quick Lime, black Soap, and Chimney-Soot: or else take an Ounce of *Sal Armoniack*, two Ounces of burnt *Roman*-Vitriol, three Ounces of quick Lime, and as many of calcin'd Tartar; mingle the whole Mass together in a *Lixivium* of Bean-Cod Ashes, and cause it to evaporate gently to a Consistence: Let this Paste be kept for use in a dry Place, and in a well stopt Vessel. Or else the Silver Cautery, or *Lapis infernalis*, may be prepar'd after the following manner.

Take

Take what Quantity you pleaſe of Silver, let it be diſſolv'd with thrice as much Spirit of Nitre in a Vial, and ſet the Vial upon the Sand-Fire, to the end that two third Parts of its Moiſture may evaporate: then pour the reſt ſcalding-hot into a good Crucible, plac'd over a gentle Fire, and the Ebullition being made, the Heat of the Fire muſt be augmented, till the Matter ſink to the bottom, which will become as it were an Oil: Afterward pour it into a ſomewhat thick and hot Mould, and it will coagulate, ſo as to be fit for uſe, if it be kept in a well-ſtopt Vial. This Cautery is the beſt; and an Ounce of Silver will yield one Ounce and five Drams of *Lapis infernalis*.

What is a Seton?

It is a String of Silk, Thread, or Cotton, threaded through a kind of Pack-Needle, with which the Skin of a Part is to be pierc'd thro', to make an Ulcer therein, that hath almoſt the ſame Effect as a Cautery.

What is moſt remarkable in the Application of a Seton?

It ought to be obſerv'd that the String muſt be dipt in Oil of Roſes, and that one end of it muſt always be kept longer than the other, to facilitate the running of the Humours.

In what Parts is the Seton to be apply'd?

The Nape of the Neck is the uſual Place of its Application, altho' it may be made in any Part of the Body where it is neceſſary. It ſometimes happens, that a Surgeon is oblig'd to uſe a kind of Seton in ſuch Wounds made with a Sword, or by Gun-ſhot, as paſs quite thro', from one ſide to the other: then the String or Skain muſt be dipt in convenient Ointments or medicinal Compoſitions; and as often as the Dreſſings are taken away, it will be requiſite to cut off the Part ſoak'd in the purulent Matter, which muſt be taken out of the Ulcer.

What is a Cupping-Glaſs?

It is a Veſſel or kind of Vial, made of Glaſs, the bottom whereof is ſomewhat broader than the top, which is apply'd to the Skin, to cauſe an Attraction. There are two ſorts of theſe Cupping-Glaſſes, *viz.* the Dry, and the Wet: the former are thoſe that are

laid upon the Skin without opening it; and the latter thoſe that are apply'd with ſcarification.

In what Diſeaſes are Cupping-Glaſſes uſed?

In all kinds where it is neceſſary to make any Attraction; but more eſpecially in Apoplexies, Vapours in Women, Palſies, and other Diſtempers of the like Nature. But the Applications of Cupping-Glaſſes are altogether different; for in Apoplexies, they are generally ſet upon the Shoulders, or upon the *Coccyx*; in Vapours, upon the Inſide of the Thighs; and in Palſies, upon the Paralytick Part it ſelf.

What is a Leech?

It is an Animal like a little Worm which ſucks the Blood, and is commonly apply'd to Children and weak Perſons, to ſerve inſtead of Phlebotomy: Leeches are alſo uſed for the diſcharging of a Defluxion of Humours in any Part; as alſo on the Hæmorrhoidal Veins, when they are too full; for the *Varices*; and in ſeveral Parts of the Face.

What choice ought to be made of Leeches?

It is requiſite to take thoſe that have their Backs greeniſh, and their Bellies red; as alſo to ſeek for them in a clear running Stream, in the Day-time, and to caſt away thoſe that are black and hairy.

Read that which *M. Poupart*, of the Royal Academy of Sciences, has publiſhed concerning Leeches, in the *Mercury* of 1697, you will there find a Compoſition worthy of your Curioſity.

CHAP.

CHAP. VI.

Of Phlebotomy.

What is Phlebotomy?

It is an Evacuation of Blood procur'd by the artificial Inciſion of a Vein or of an Artery, with a deſign to reſtore Health.

Which are the Veſſels that are open'd in Phlebotomy or Blood-letting?

They are in general all the Veins and Arteries of the Body, nevertheleſs ſome of them are more eſpecially appropriated to this Operation; as the *Vena Præparata*, in the Forehead; the *Ranulæ*, under the Tongue; the Jugular Veins and Arteries, in the Neck; the Temporal Arteries, in the Temples; the *Cephalick*, *Median*, and *Baſilick* Veins, in the inſide of the Elbow; the *Salvatella*, between the Ring-Finger and the Little Finger; the *Poplitæa*, in the Ham; the *Saphena*, in the internal *Malleolus* or Ancle; and the *Iſchiatica*, in the external.

What are the Conditions requiſite to the due performing of the Operation of Phlebotomy?

They are theſe, *viz.* to make choice of a proper Veſſel; not to open any at all Adventures; not to let Blood without neceſſity, nor without the Advice of a Phyſician: (whoſe Office it is, to determine the Seaſons or Times convenient for that purpoſe; as that of Intermiſſion in an intermitting Fever; that of Coolneſs in the Summer; and that of Noon-tide in the Winter;) and laſtly, to take away different Quantities of Blood; for in the Heat of Summer they ought to be leſſer, and greater in the Winter.

What are the Accidents of Phlebotomy?

They are an Impoſtume, a *Thrombus*, an *Echymoſis*, an *Aneuriſm*, Lipothymy, Swooning, and a Convulſion.

What is a Thrombus?

It is a ſmall Tumour of Blood, which happens in the Place where the Operation is perform'd, either by making the Orifice too ſmall, or larger than the Capaciouſneſs of the Veſſel will admit. The *Thrombus* is cur'd by laying upon it a Compreſs dipt in fair Water, between the Folds of which muſt be put a little Salt, to diſſolve and prevent the Suppuration.

How may it be perceiv'd that an Artery hath been prick'd or open'd in letting Blood?

The Puncture of an Artery which does not intirely open it, produceth an *Aneuriſm*; and the opening cauſeth a Flux of a bright Scarlet-colour'd Blood, which iſſueth forth in abundance, and by Spurts.

Are the Spurts which the Blood makes in running, a certain Sign that it comes from an Artery?

No, becauſe it may ſo happen, that the *Baſilick* Vein may lie directly upon an Artery, the beating of which may cauſe the Blood of the *Baſilica* to run out ſpurting. Therefore theſe Three Circumſtances ought to be conſider'd jointly; that is to ſay, the Vermillion-Colour, the great Quantity, and the Spurts, in order to be aſſured that the Blood proceeds from an Artery.

How may it be diſcover'd that a Tendon, or rather its Aponeuroſis, *hath been hurt in letting Blood?*

It is known, when in opening the *Median* Vein the End of the Lancet hath met with ſome Reſiſtance; when the Patient hath felt great Pain; and afterward when the Tendon apparently begins to be puff'd up, and the Arm to ſwell. A Remedy may be apply'd to this Accident thus: after having finiſh'd the Operation, a Bolſter ſteep'd in *Oxycratum* is to be laid upon the Veſſel, a proper Bandage is to be made, and the Arm muſt be wrapt up in a Scarf. If the Inflammation that ariſeth in the Part, be follow'd with Suppuration, it muſt be dreſs'd with a ſmall Tent; and if the Suppuration be conſiderable, it is neceſſary to dilate the Wound,

Wound, and to make uſe of Oil of Eggs and Brandy, or *Arcæus*'s Liniment, with a good Digeſtive; as alſo to apply *Emplaſtrum Ceratum*; to make an Embrocation on the Arm with Oil of Roſes; and to dip the Bolſters in *Oxycratum* to cover the whole Part.

Is it not to be fear'd that ſome Nerve may be wounded in letting Blood?

No, they lie ſo deep that they cannot be touched.

Under what Vein is the Artery of the Arm?

It is uſually ſituated under the *Baſilica?*

What courſe is proper to be taken, to avoid the Pricking of an Artery in letting Blood?

It muſt be felt with the Hand, before the Ligature is made, obſerving well whether it be deep or ſuperficial: for when it lies deep, there is nothing to be fear'd; and when it is ſuperficial, it may be eaſily avoided by pricking the Vein either higher or lower.

What is to be done when an Artery is opened?

If it be well open'd, it is requiſite to let the Blood run out till the Perſon falls into a *Syncope* or Swoon, by which means the Aneuriſm is prevented; and afterward the Blood will be more eaſily ſtopp'd: It remains only to make a good Bandage with many Bolſters, in the firſt of which is ſimply put a Counter or a Piece of Money; but a bit of Paper chew'd will ſerve much better, with Bolſters laid upon it in ſeveral folds.

If the Arteries cauſe ſo much trouble when opened accidentally, why are thoſe of the Temples ſometimes open'd on purpoſe, to aſſuage violent Pains in the Head?

By reaſon that in this Place the Arteries are ſituate upon the Bones that preſs them behind; which very much facilitates their Re-union.

Are not the Arteries of Perſons advanc'd in Years more difficult to be clos'd than thoſe of Children?

Yes.

Are not Accidents to be feared in letting Blood in the Foot?

Much

Much leſs than in the Arm: becauſe the Veins of the *Malleoli* or Ankles are not accompany'd either with Arteries or Tendons; which gave Occaſion to the Saying, *Let the Apprentice bleed you in the Foot, but the Maſter in the Arm.*

A TREATISE OF *Chirurgical Operations*.

CHAP. I.

Of the Operation of the Trepan.

THIS Operation is to be perform'd, when it is inferr'd from the Signs, of which we have already given a particular Account, that there is an Effusion of Matter on the *Dura Mater*. The Trepan must not be us'd on the *Sinus Superciliares*, by reason of their Cavity; nor on the Sutures, in regard of the Vessels that pass thro' them; nor on the Temporal Bone, without great necessity, especially in that part of it which is join'd to the Parietal Bone, lest the End of this Bone should fly out of its Place, since it is only laid upon the Parietal; nor on the middle of the Coronal and Occipital Bones, by reason of an inner Prominence whereto the *Dura Mater* adheres; nor on the Passage of the Lateral

teral *Sinus*'s, that are ſituated on the ſide of the Occipital.

If the Fiſſure be very ſmall, the Trepan may be apply'd upon it, altho' it is more expedient to uſe this Inſtrument on the ſide of the Fiſſure in the lower part; neither is the Trepan to be ſet upon any Depreſſions; and if the Bones are looſened or ſeparated, there needs no other trepanning than to take them away with the Elevatory.

The Operation muſt be begun with Inciſion, which is uſually made in form of a Croſs, if the Wound be remote from the Sutures, and there are no Muſcles to be cut; and in the ſhape of the Letter T, or of the Figure 7, if it be near the Sutures, ſo that the Foot of the 7, or of the T, ought to be parallel to the Suture, the top of the Letter deſcending toward the Temples; it is alſo made in the middle of the Forehead. If it be ſufficient to make a longitudinal Inciſion in the Forehead, its Wrinkles may be follow'd, and there will be leſs Deformity in the Scar; but it is never done croſswiſe in this Part, and the Lips of the Wound are not to be cut. If an Inciſion be made on the Temporal Muſcle, and on thoſe of the back-part of the Head, it may be done in form of the Letter V, the Point of which muſt ſtand at the bottom of the Muſcles; nevertheleſs it is more convenient to make a longitudinal Inciſion, by which means fewer Fibres will be cut: and it is always requiſite to begin at the lower part, to avoid being hindred by the Hæmorrhage. The Inciſions are to be made with the Inciſion-Knife, and that boldly when there are no Depreſſions; but if there be any, too much weight muſt not be laid on them. Thus the Inciſion being finiſh'd, the Lips of the Wound muſt be ſeparated from the Skull, either with the Fingers, or ſome convenient Inſtrument: then if there be no urgent occaſion to apply the Trepan, it may be deferr'd till the next Day, the Wound being dreſs'd in the mean time with Plaiſters, Compreſſes, Pledgits, and a large Kerchief or Cap, the uſe of which we ſhall ſhew hereafter,

The Operation is begun with the Perforative, to make a little Hole for the fixing of the Pyramid or Pin which is in the Crown; afterward the Crown is to be apply'd, holding the Handle of the Trepan with the Left Hand, and turning with the other very faſt in the beginning: but

when

when the Crown hath made its way, it is lifted up to remove the Pin, leſt its Point ſhould hurt the *Dura Mater*. Thus the Crown being taken off from time to time, to be cleans'd from the Filings, it is ſet on again, and the Operator begins his Work of turning anew; which muſt be carry'd on gently when any Blood appears, that the Piece of Bone of the firſt Table may not be broken off from the ſecond. When he comes near the *Dura Mater*, the Operator muſt proceed, in like manner, gently ſearching with a Quill, cut into a Knib like a Pen for Writing, round about the Bone, to obſerve whether he ſtill be in the Skull. He muſt alſo often lift up the Trepan to ſearch the Hole, to cleanſe the Inſtrument, and to keep it from growing hot. As often as the Trepan is taken off, let him ſearch with a Quill, to ſee whether the Bone be cut equally; and if it be not, he muſt lean more on that ſide which is leaſt cut. If it be neceſſary to make uſe of the *Terebellum*, the Hole muſt be made in the beginning, whilſt the Bone is as yet firm: and when the Piece begins to move, the *Terebellum* is to be put very gently into its Hole, without preſſing the Bone to draw it out; or elſe it may be taken away with the Myrtle-Leaf. When the Piece is thus remov'd, the uneven Parts that remain at the bottom of the Hole, are to be cut with the *Scalper Lenticularis* or Lenticular Inſtrument; and if there be any Depreſſions, they may be rais'd with the Elevatory. Whereupon the *Dura Mater* may be compreſſed a little with the *Scalper Lenticularis*, to facilitate the running out of the Blood, the wounded Perſon being oblig'd to ſtoop with his Head downward, ſtopping his Noſe and Mouth, and holding his breath for a while whilſt it is evacuated. Then the *Dura Mater* may be wip'd with Lint; but if any *Pus* or corrupt Matter lies underneath, it muſt be pierc'd with a Lancet wrapt up in a Tent, that it may not be perceiv'd by the Aſſiſtants. Afterward a *Sindon* or very fine Linen Rag dipt in a proper Medicament, is put between the *Dura Mater* and the Skull, having a thread faſtened thereto to draw it out; the Hole is fill'd with ſmall Pledgits ſteep'd in Medicinal Liquors; and the Wound is dreſs'd with Doſils, Pledgits, a Plaiſter, and a Compreſs with a Kerchief.

But the Hole ought to be well ſtopt with Pledgits, becauſe the *Dura Mater* is ſometimes ſo much inflam'd, that

that it burſts forth, If any Excreſcences ariſe therein, and go out of the Hole, having ſmall Roots, they may be bound and cut; but if their Roots be large, they muſt be preſs'd cloſe with ſmall Pledgits ſteep'd in Spirituous Medicines. Here obſerve, that the Operation of the Trepan ought to be perform'd more gently in Children, than in adult Perſons, in regard that their Bones are more tender; and that Oily Medicines, muſt not be us'd, but Spirituous. The Exfoliation is made ſometimes ſooner, and ſometimes later; but the *Callus* uſually covers the opening made in the Skull within the Space of forty or fifty Days, if no ill Accident happens. In great Fractures, where there is no longer any Connexion between the Bones, it is requiſite to take them away.

Of the Bandage of the Trepan.

The proper Bandage to be us'd after the Operation of the Trepan, is the great Kerchief or Cap; which is a large Napkin folded into two parts, after ſuch a manner, that the ſide which toucheth the Head exceeds that which doth not touch it the breadth of four Fingers; it is apply'd to the Head in the middle, whilſt a Servant holds on the Dreſſing with his Hand: Then the two upper ends of the Napkin being brought under the Chin, the Surgeon takes the two lower, and draws them ſtrait by the ſides, ſo as that ſide of the Napkin, which is four Fingers broader than the other, may be laid upon the Forehead: Afterward the two Ends of the Napkin are croſs'd behind the Head, and faſtened at their Extremities with Pins, without making any Folds that might hurt the Part; but the ends of the Napkin which fall upon the Shoulders, are rais'd up to the Head near the leſſer Corner of the Eyes; and the two ends under the Chin are faſtened with Pins, or elſe ty'd in a Knot.

CHAP.

CHAP. II.

Of the Operation of the Fiſtula Lachrymalis.

THIS Operation is perform'd when there is a Fiſtulous Ulcer in the great Corner of the Eye, after this manner. The Patient being plac'd in a convenient Poſture, and having his ſound Eye bound up, to take away the Sight of the Inſtruments; the Operator cauſeth the other Eye to be kept ſteady by a Compreſs kept on by a Spoon, and makes an Inciſion with a Lancet, in form of a Creſcent, upon the Tumour, taking care to avoid cutting the Eye-Lid and the little Cartilage which ſerves as a Pulley to the great Oblique Muſcle. If the Bone be carious, an actual Cautery may be apply'd thereto, uſing for that purpoſe a ſmall Funnel or Tube, through the Canal of which the Cautery is convey'd to the Bone. But the Bone muſt not be pierc'd, for it is exfoliated intire by reaſon of its ſmallneſs; and ſo the Hole is made without any Perforation.

The Dreſſing and Bandage of the Fiſtula Lachrymalis.

The Wound is fill'd with ſmall dry Doſils, a ſmall dry Pledgit thereupon, a Plaiſter, and over all a Compreſs. The Bandage is made with an Handkerchief folded triangular-wiſe; the ends of which are faſtened behind the Head. If the Fleſh grows too faſt, it may be conſum'd with the Lunar Cauſtick; and if there be occaſion to dilate the Wound, to facilitate the Exfoliation, it may be done with little pieces of Spunge prepar'd with Wax, and put into it. Afterward Cauſticks are to be us'd, to eat away the callous Parts, which may be mingled with Oily Medicines, to weaken their Action; taking care, that the Eye receive no damage by them. If the Bone be corrupted, a little *Euphorbium* may be apply'd; or elſe

ſmall

ſmall Doſils ſteep'd in the Tincture of Myrrh and Aloes; and afterwards the Ulcer may be treated as all others.

CHAP. III.

Of the Operation of the Cataract.

THIS Operation is perform'd when there is a ſmall Body before the Pupil of the Eye, which hinders the Light from entring into it. But it is undertaken only in Blue, Green, and Pearl-colour'd Cataracts, or in thoſe that are of the Colour of poliſh'd Steel; and not in Yellow, Black, or Lead-colour'd. This laſt is generally called *Glaucoma*, when the Chryſtalline Humour of the Eye, is ſo hardened or ſpoiled, that the Light cannot paſs through, to make an impreſſion upon the *Retina*. To know whether the Cataract be fit to be couch'd, the Patient's Eye muſt be rubb'd; ſo that if the Cataract remains unmoveable, it is mature enough; but if it changeth its Place, it is requiſite to wait till it become more ſolid. The Spring and Autumn are the moſt proper Seaſons for performing this Operation.

To this purpoſe the Patient being ſet down with his Eyes turn'd toward the Light, and having his Sound Eye bound up; the Surgeon muſt ſit on a higher Seat, whilſt the Patient's Head is held by a Servant; and his Eye being turn'd toward his Noſe, is kept ſteady with a *Speculum Oculi*, which is a little Steel-Inſtrument made like a Spoon, pierc'd in the middle, ſo that the Ball of the Eye may be let through the Hole. Then the Surgeon taking a Steel-Needle, either round or flat, according as he ſhall judge convenient, perforates the Conjunctive at the end of the corneous Tunicle, on the ſide of the little Corner of the Eye, and boldly thruſts his Needle into the middle of the Cataract; which he at firſt puſhes upward, to looſen it with the Point of the Needle; and then downward, keeping it for ſome time with his Needle below

the

the Pupil of the Eye. If it aſcend again after it is let go, it muſt be depreſſed a ſecond time: but the Operation is finiſh'd, when it remains in the ſame place whereto it was thruſt. Neither is the Needle to be remov'd till all this be done, and the Cataract intirely couch'd. In taking out the Needle, the Eye-Lid muſt be pull'd down, and preſs'd a little over the Eye.

The Dreſſing and Bandage

Is to cauſe both the Patient's Eyes to be clos'd and bound up; then he muſt be oblig'd to keep his Bed during ſeven or eight Days; and ſome Defenſative is to be laid upon the ſore Eye, to hinder the Inflammation.

M. *Dupré*, a Surgeon of the *Hotel Dieu*, a Perſon very eminent in theſe kinds of Operations, hath obſerv'd, that as ſome Cataracts were form'd in a very little ſpace of time in perfect Maturity; it happened alſo very often, that the Cataracts which were ſuppos'd to have got up again, were not the very ſame with thoſe that were couch'd, but rather a new *Pellicula* or little Skin, which ſometimes hath its Origin in the top of the *Uveous* Tunicle, and is caus'd only by a very conſiderable Relaxation of the Excretory Veſſels from the Sources of the Aqueous Humour, which in filtrating permits the running off of many heterogeneous Parts, the Encreaſe of which produceth a new Cataract.

Of other Operations in the Eyes.

Sometimes a ſort of purulent Matter is gathered together under the Corneous Tunicle: to let this out, the Eye muſt be fix'd in a Poſture with the *Speculum Oculi*, and after a ſmall Inciſion made therein with a fine Lancet, it muſt be preſs'd a little to diſcharge the Matter; but if it be too thick, it may be drawn forth by ſucking gently with a ſmall Tube or Pipe, having a little Vial in the middle, into which the Matter will fall as it is ſuck'd out.

Sometimes a ſmall Tumour ariſeth in the Eye, which being ty'd at its Root with a Slip-Knot, to ſtraighten it from time to time, will at length fall off. But if the Tumour lie on the Hole of the Pupil, this Operation muſt not be admitted, leſt the Scar ſhould hinder the Paſſage of the Light. Sometimes alſo a ſomewhat hard Membrane, call'd *Unguis*, appears in the great Corner of the Eye, which, when it ſticks thereto, may be cut off by binding it; this is done with a Needle and Thread, which is paſs'd under the Membrane, and afterward it is tied with the Thread.

If the Eye-Lids are glu'd together, a crooked Needle without a Point may be threaded, and paſs'd underneath them; then the Ends of the Thread may be drawn, to lift up the Eye-Lids, and they may be ſeparated with a Lancet.

If the Hairs of the Eye-Lids or Eye-Brows offend the Eye, they muſt be pull'd out with a Pair of Tweezers or Nippers: and when any ſmall, hard, and traſparent Tumours ariſe in the Eye-Lids, they are to be open'd, to let out the corrupt Matter.

CHAP. IV.

Of the Operation of the Polypus.

THIS Operation is neceſſary, when there are any Excreſcences of Fleſh in the Noſtrils; which, nevertheleſs, when they are livid, ſtinking, hard, painful, and adhere cloſely, muſt not be tamper'd with, becauſe they are Cancers. But if they are whitiſh, red, pendulous, and free from Pain, the Cure may be undertaken after this manner: Take hold of the *Polypus* with a Pair of *Forceps*, as near its Root as is poſſible, and turn it firſt on one ſide, and then on another, till it be pull'd off. If the *Polypus* deſcends into the Throat, it may be drawn through

through the Mouth with a crooked *Forceps*: and if an Hæmorrhage ſhould happen after the Operation, it may be ſtopped by thruſting up into the Noſtrils certain Tents ſoaked in ſome ſtyptick Liquor, or elſe by ſyringing with the ſame Liquor.

CHAP. V.

Of the Operation of the Hare-Lip.

THIS Operation is perform'd when the upper Lip is cleft: but if there be a great Loſs of Subſtance, it muſt not be undertaken; neither ought it to be practis'd upon old, nor ſcorbutick Perſons, nor upon young Children, by reaſon that their continual Crying would hinder the Re-union. But if any are deſirous that it ſhould be done to theſe laſt, they are to be kept from taking any Reſt for a long time, to the end that they may fall aſleep after the Operation; which is thus effected:

If the Lip ſticks to the Gums, it is to be ſeparated with an Inciſion-Knife, without hurting them; then the Hare-Lip muſt be cut a little about the Edges with Sciſſars, that it may more eaſily re-unite, the Edges being held for that purpoſe with a Pair of Pincers, whilſt the Servant who holds the Patient's Head, preſſeth his Cheeks forwards to bring together the ſides of the Hare-Lip. Then let the Operator paſs a Needle with wax'd Thread into the two Lips of the Wound, from the outſide to the inſide, a Hair's breadth from their Edges. Here Care muſt be had that the two ſides of the Hare-Lip be well adjuſted, and very even. Laſtly, let him twiſt the Thread round the Needle, croſſing it above.

The Dreſſing and Bandage.

After the Lips are waſh'd with warm Wine, the Points of the Needles muſt be cut off, ſmall Bolſters being laid under their Ends; then the Wound is to be dreſt with a little Pledgit arm'd with ſome proper Balſam, putting at the ſame time between the Lip and the Gum a Linen Rag ſteep'd in ſome deſiccative Liquor, leſt the Lip ſhould ſtick to the Gum, if it be neceſſary to keep them apart. Laſtly, upon the whole is to be laid an agglutinative Plaiſter, which muſt be kept on with the uniting Bandage, which is a ſmall Fillet perforated in the middle. Put this behind the Head, bring one End forward, paſs it thro' the Hole in the middle, lay this part upon the Wound, then bring the two Tails behind the Head, and paſſing them over the firſt Turns, faſten them there with a ſufficient number of Pins.

The Patient muſt be dreſt three Days after; and it is requiſite at the firſt time only to untwiſt half the middle Needle, if there be three; to which purpoſe a Servant is to thruſt the Cheeks ſomewhat forward. On the eighth Day, the middle Needle may be taken off, if it be a young Infant: nevertheleſs the Needles muſt not be remov'd till it appear that the Sides are well join'd; neither muſt they be left too long time, becauſe the Holes would ſcarce be brought to cloſe.

CHAP.

CHAP. VI.

Of the Operation of Bronchotomy.

THIS Operation becomes neceſſary, when the Inflammation that happens in the *Larynx* hinders Reſpiration; and is perform'd after this manner:

The Wind-pipe is open'd between the third and fourth Ring, above the *Cricoides* Cartilage, or elſe in the middle of the Wind-pipe; but in ſeparating the Muſcles call'd *Sternohyoidei*, care muſt be had to avoid cutting the recurrent Nerves, leſt the Voice ſhould be loſt; as alſo the Glandules, named *Thyroideæ*. The ſpace between the Rings is to be open'd with a ſlender Lancet, bound round with a little Tape; and a tranverſe Inciſion is made between them. Before the Lancet is taken out, put a Probe into the Orifice, on which paſs a little Pipe, ſhort, flat, and ſomewhat crooked at the end, which muſt not be thruſt in too far, for fear of exciting a Cough. This Pipe hath two ſmall Rings for the faſtening of Ribbons, which are ty'd round about the Neck; and muſt be left in the Wound till the Symptoms ceaſe. After that it muſt be taken away, and the Wound dreſs'd, the Lips of it being brought together with the uniting Bandage, which hath been already deſcrib'd.

CHAP. VII.

Of the Operation of the Uvula.

WHEN the *Uvula* is ſwell'd ſo as to hinder Reſpiration or Swallowing, or elſe is Gangren'd, it may be extirpated thus: The Tongue being firſt depreſſed with an Inſtrument call'd *Speculum Oris*, this muſt be held with a *Forceps*, and cut with a Pair of Sciſſars; or elſe a Ligature may be made before it is cut; and the Mouth may be afterward gargled with aſtringent Liquors.

CHAP. VIII.

Of the Operation of a Cancer in the Breaſt.

THE Cancer at firſt is not ſo big as a Pea, being a ſmall, hard, ill-colour'd Swelling, ſometimes livid, and very troubleſome by reaſon of its Prickings: but when it is increas'd, the Tumour appears hard, Lead-colour'd and livid, cauſing in the Beginning a Pain that may be pretty well endur'd; but in the Increaſe it grows intolerable, and the Stink is extremely noiſome. When it is ready to ulcerate, the Heat is vehement, with a pricking Pulſation; and the Veins round about are turgid, being fill'd with black Blood, and extended like the Feet of a Crab or Cray-Fiſh, till Death happens. When the Tumour is not ulcerated, it is call'd an *Occult Cancer*; and an *Apparent* one, when it breaks forth into an open Ulcer.

To palliate an Occult Cancer, and prevent its Ulceration, a Cataplaſm or Pultis of Hemlock very freſh, may be apply'd to the Part. All the kinds of Succory, the Decoction of *Solanum* or Night-ſhade, the Juices of theſe Plants, as alſo thoſe of Scabious, *Geranium* or Storks-Bill, *Herniaria* or Rupture-wort, Plantain, *&c.* are very good

good in the beginning. Cray-fiſh pounded in a leaden Mortar, and their Juice beaten in a like Mortar, are an excellent Remedy; as alſo are Humane Excrements, or Urine diſtill'd, and laid upon the Part. Or elſe,

Take an Ounce of calcin'd Lead, two Ounces of Oil of Roſes, and ſix Drams of Saffron: let the whole Compoſition be beaten in a Mortar with a leaden Peſtle, and apply'd. The *Amalgama* of *Mercury* with *Saturn* is likewiſe a very efficacious Remedy.

In the mean while the Patient may be purg'd with *Black Hellebore* and *Mercurius Dulcis*, taking alſo inwardly, from one Scruple to half a Dram of the powder of Wood-lice, given to drink, with half the Quantity of Crabs-Eyes: but very great care muſt be taken to avoid the Application of Maturatives or Emollients, which would certainly bring the Tumour to Ulceration.

When the Cancer is already ulcerated, the Spirit of Soot may be us'd with good ſucceſs; and the Oil of Sea-Crabs pour'd ſcalding hot into the Ulcer is an excellent Remedy. But if it be judg'd expedient intirely to extirpate the Cancer, it may be done thus:

The Patient being laid in a Bed, let the Surgeon take the Arm on the ſide of the Cancer, raiſing it, and bringing it back to give ſcope to the Swelling: then having paſs'd a Needle with a very ſtrong Thread through the bottom of the Breaſt, let him cut the Thread, take away the Needle, and paſſing the Needle again into the Breaſt, cauſe the Threads to croſs one another. Next, theſe four ends of the Threads muſt be ty'd together, to make a kind of Hold to take off the Tumour, which is cut quite round to the Ribs with a very ſharp Razor. The Cutting is uſually begun in the lower Part, that ſo it may end in the Veſſels near the Arm-pit, where a ſmall piece of Fleſh is left to ſtopt the Blood with greater Facility. Then having laid a Piece of Vitriol upon the Veſſels, or Bolſters ſoak'd in ſtyptick Water; the ſides of the Breaſt muſt be preſt with the Hand, to let out the Blood and Humours; and an actual Cautery is to be lightly apply'd thereto.

The Dreſſing.

The Wound is to be dreſt with Pledgits ſtrew'd with aſtringent Powders, a Plaiſter, a Compreſs, a Napkin round the Breaſt, and a Scapulary to ſupport the whole Bandage.

But inſtead of theſe croſs Threads, it is better to make uſe of a ſort of *Forceps* turn'd at both Ends in form of a Creſcent, after ſuch a manner that thoſe Ends may paſs one over another, when the *Forceps* is ſhut. Thus the Surgeon may lay hold on the Breaſt, draw it to him, and after cut it off at one ſingle Stroke with a very flat, crooked, and ſharp Knife. The Cutting is begun in the lower part, that the mammary Veſſels may be cut laſt, for fear the *Hæmorrhage* ſhould hinder the Operator. Neither is it convenient to apply the Actual Cautery to ſtop the Hæmorrhage, becauſe it is apt to break forth again anew, when the Eſcar is fallen off.

When the Tumour is not as yet ulcerated, a Crucial Inciſion may be made in the Skin, without penetrating into the Glandulous Bodies: Then the four Flaps being ſeparated and rais'd, the cancerous Tumour may be held with the *Forceps* and cut out. If there be any Veſſels ſwell'd, they may be bound before the Tumour is taken away: but if the Tumour ſticks cloſe to the Ribs, the Operation is not uſually undertaken.

CHAP.

CHAP. IX.

Of the Operation of the Empyema.

THIS Operation is perform'd, when it may be reaſonably concluded that ſome corrupt Matter is lodg'd in the Breaſt, which may be perceived by the Weight that the Patient feels in fetching his Breath; being alſo ſenſible of the floating of the Matter when he turns himſelf from one ſide to another.

If the Tumour appears on the Outſide, the Abſceſs muſt be open'd onely between the Ribs; but if no external Signs are diſcern'd, the Surgeon may chooſe the moſt convenient Place to make the Opening. Thus when the Patient is ſet upon his Bed, and conveniently ſupported, the Opening is to be made between the ſecond and third of the Spurious Ribs, within four Fingers breadth of the Spine, and the lower Corner of the *Scapula*. To this purpoſe, the Skin is to be held up a-croſs, to cut it in length, the Surgeon holding it on one ſide, and the Aſſiſtant on the other. The Inciſion is made with a ſtraight Knife, two or three Fingers breadth long, and the Fibres of the great Dorſal Muſcle are cut a-croſs, that they may not ſtop the Opening. Then the Surgeon puts the Fore-Finger of his Left-Hand into the Inciſion, to remove the Fibres, and divides the Intercoſtal Muſcles guiding the Point of the Knife with his Finger, while he perforates the *Pleura*, for fear of wounding the Lungs, which ſometimes adhere thereto. The Orifice being thus made, if the Matter runs well, it muſt be let alone; but if not, the Fore-Finger muſt be put into the Wound, to disjoin thoſe Parts of the Lungs that adhere to the *Pleura*; which is done by turning it round between the *Pleura* and the Lungs.

To let out the Matter, the Patient muſt be oblig'd to lean on one ſide, ſtopping his Mouth and Noſe, and puffing up his Cheeks, as if he were to blow vehemently; then if Blood appears, a greater Quantity of it may be taken away than if it were Matter, in regard that a Flux of Matter, weakens more than of that Blood. It is alſo worth the while to obſerve, that in making the Inciſion, the Intercoſtal Muſcles ought to be cut a-croſs, that the ſide of the

the Ribs may not be laid bare, by which means the Wound will not ſo ſoon become Fiſtulous.

If it be judg'd that purulent Matter is contain'd in both ſides of the Breaſt, it is requiſite that the Operation be made on each ſide; it being well known, that the Breaſt is divided into two Parts by the *Mediaſtinum*: but in this caſe the two Holes made by the Inciſion muſt not be left open at the ſame time, for fear of ſuffocating the Patient.

The Dreſſing and Bandage.

The Wound is dreſs'd with a Tent of Rags roll'd up, arm'd with ſome Balſam. This muſt be ſoft, and blunt at the End, and enter only between the Ribs for fear of hurting the Lungs: but a good Doſil of Lint is more convenient than a Tent; however, a Thread muſt be ty'd to either of them, leſt it ſhould fall into the Breaſt. Pledgits muſt be put into the Wound, and a good Plaiſter and Compreſs over all. This Dreſſing is to be kept on with a Napkin faſtened round the Breaſt with Pins, and ſupported by a Scapulary. This is a ſort of Band about ſix Inches broad, having a Hole in the middle to let in the Head: one of its Ends falls behind, and the other before; and they are both faſtened to the Napkin. Laſtly, the Patient muſt be laid in Bed, and ſet half upright. If the Lungs hinder the running out of the Matter, a Pipe muſt be put in; and the Wound afterward dreſs'd according to Art.

CHAP

CHAP. X.

Of the Operation of the Paracenteſis *of the lower Belly.*

THIS Manual Operation is ſometimes neceſſary in a Dropſie, when Watry Humours are contain'd in the Cavity of the Belly, or elſe between the Tegument. The Diſeaſe is maniſeſt by the great Swelling: and the Operation is perform'd with the *Trocar*, which is a Cane or a Pipe, made of Silver or Steel, with a Bodkin ſharp-pointed at the End in it; altho' the Ancients were wont to do it with a Lancet. The Patient being ſupported, ſitting on a Bed, or in a great Elbow-Chair, to the end that the Water may run downward; a Servant muſt preſs the Belly with his Hands, that the Tumour may be extended, whilſt the Surgeon perforates it three or four Fingers breadth below the Navel, and makes the Puncture on the ſide, to avoid the White-Line; but before the Opening is made, it is expedient that the Skin be a little rais'd up. After the Puncture, the Bodkin or Wire is remov'd to let out the Water; and a convenient quantity of it is taken away, according as the Strength of the Patient will admit. The beſt Operators take it all away at once. This makes ſo ſmall an Orifice, that it is not to be fear'd leſt the Water ſhould run out, which might happen in making uſe of the Lancet, becauſe there would be occaſion for a larger Pipe. When a new Puncture is requiſite, it muſt be made beneath the former; but if the Waters cauſe the Navel to ſtrut out, the Aperture may be made there, without ſeeking for any other place.

The Dreſſing and Bandage

Are made with a large Compreſs in four doubles, kept on with a Napkin folded into three or four Leaves; and this is ſupported by the Scapulary.

The

The Operation of the Peracenteſis *of the* Scrotum

Is undertaken when thoſe Parts are diſtended with Water, after this manner: As ſoon as the Patient is plac'd in a convenient Poſture, either ſtanding or ſitting, the Operator lays hold on the *Scrotum* with one Hand, preſſeth it a little to render the Tumour hard, and makes a Puncture as in the *Paracenteſis* of the *Abdomen*. In an *Hydrocele* that happens to young Infants, the Puncture may be made with a Lancet, to let out all the Water at once: but in Men, eſpecially when there is a great quantity thereof, it is better to do it with the *Trocar* or ſharp-pointed Pipe: but the Teſticles muſt be drawn back, for fear of wounding 'em with the Point of the Inſtrument.

If you judge the *Hydrocele* to be included in a Bag, the Membrane containing the Water is to be conſum'd with Cauſticks; which is done by laying a Cautery in the place where the Inciſion ſhould be made, and afterward opening the Eſcar with a Lancet.

When the Puncture is made, it ought to be done in the upper part of the *Scrotum*, becauſe it is leſs painful than in the lower, and leſs ſubject to Inflammation.

CHAP. XI.

Of the Operation of Gaſtroraphy.

THIS Operation is uſually perform'd, when there is a Wound in the Belly ſo wide as to let out the Guts. If there be a conſiderable Wound in the Inteſtine, it may be ſew'd up with the Glover's Stitch; the manner of making which we have before explain'd. If the *Omentum* or Caul be mortify'd, the corrupted Part muſt be cut off; for which purpoſe take a Needle with wax'd Thread, and paſs it into the ſound Part a-croſs the Caul, without prick-

ing

ing the Veſſels. Then the Caul being ty'd on both ſides with each of the Threads that have been paſs'd double, may be cut an Inch below the Ligature, and the Threads will go thro' the Wound, that they may be taken away after the Suppuration. Next, the Inteſtines muſt be put up again into the Belly, by thruſting them ſucceſſively with the end of the Fingers. But if they cannot be reſtor'd to their proper place without much difficulty, Spirituous Fomentations may be made with a handful of the Flowers of Camomile and Melilot, an Ounce of Aniſeed, with as much Fennel and Cummin-ſeeds, half an Ounce of Cloves and Nutmegs: let them be boil'd in Milk, adding an Ounce of Camphirated Spirit of Wine, and two Drams of *Saccharum Saturni*, with two Scruples of Oil of Aniſeed, and bathe the Guts with this Fomentation very hot. Or,

Apply Animals cut open alive; or elſe boil Skeins of raw Thread in Milk, and ferment them with this Decoction in like manner very hot.

Before the Suture or Stitching up of the Guts, foment them with Spirit of Wine, in which a little Camphire hath been diſſolv'd. But if they be mortify'd, they muſt not be ſewn up again, but fomented with Spirituous Liquors. No Clyſters are to be given to the Patient, for fear of cauſing the Guts to ſwell; but a Suppoſitory may be put up: or the Patient may uſe a Laxative Diet-Drink, if it be neceſſary to open his Body: He ought alſo to be very temperate and abſtemious during the Cure, and to take no other Suſtenance than Broths and Gellies.

If the Inteſtines cannot be put up again, the Wound muſt be dilated, avoiding the White-Line, and that too at the bottom rather than at the top, if it be above. To this purpoſe, the Inteſtines are to be rang'd along the ſide of the Wound, and a Bolſter is to laid upon them dipp'd in warm Wine, which may be held by ſome Aſſiſtant. Then the Surgeon introduceth a Director or Channell'd Probe into the Belly, and takes a great deal of care to fix the Inteſtine between the Probe and the *Peritonæum*, which may be effected by drawing out the Inteſtine a little; then holding the Probe with his Left-Hand, to fit a crooked Inciſion-Knife in its channelling, he cuts the Teguments equally both on the outſide and within, and thruſts back the

the Entrails alternately into the Wound with his Fore-Fingers.

The Stitch muſt be intermitted, being made with two crooked Needles threaded at each end with the ſame Thread. The Surgeon having at firſt put the Fore-Finger of his Left-Hand into the Belly, to retain the *Peritonæum*, Muſcles, and Skin on the ſide of the Wound, muſt paſs the Needle with his other Hand into the Belly, the Point of which is guided with the Fore-Finger, and penetrates very far. Then he likewiſe paſſeth the other Needle through the other Lip of the Wound into the Belly, obſerving the ſame thing as in the former, and without taking his Fingers off from the Belly. If there are many Stitches to be made, they may be done after the ſame manner, without removing the Fingers from the Part; whilſt a Servant draws together the Lips of the Wound, and ties the Knots. Afterward the Wound may be dreſs'd, and the Preparatives or Dreſſings kept cloſe on the Part with the Napkin and Scapulary. But the Patient muſt be oblig'd to lie on his Belly for ſome Days ſucceſſively, to cicatrize the Wound thereof, or that of the Guts.

If the Inteſtine were intirely cut, it would be requiſite to ſew it up round about the Wound, after ſuch a manner that ſome part of it may always remain open; for if the Patient ſhould recover, his Excrements might be voided through the Wound; of which Accident we have an Example in a Soldier belonging to the Hoſpital *Des Invalides* at *Paris*, who liv'd a long time in this Condition

CHAP

CHAP. XII.

Of the Operation of the Exomphalus.

THIS Operation is neceſſary, when the Inteſtines or Guts have made a kind of Rupture in the Navel; and may be perform'd thus: When the Patient is laid upon his Back, let an Inciſion be made on the Tumour quite to the Fat, by griping the Skin, if it can be, if not, it may be done without it. Then let the Membranes be divided with a Fleam, to lay open the *Peritonæum*, for fear of cutting the Gut: and as ſoon as the *Peritonæum* appears, let it be drawn upward with the Nails, in order to make a ſmall Opening therein with a Knife. And now the Surgeon, having put the Fore-Finger of his Left-Hand into the Belly, to guide the Point of the Sciſſars, with which the Inciſion is inlarged, let him reſtore the Gut to its proper place, and looſen the Caul if it ſtick to the Tumour: if the Guts are faſten'd to the Caul, it is neceſſary to ſeparate them by cutting a little of the Caul, rather than the Gut; which laſt being reduc'd, let a Servant preſs the Belly on the Edge of the Wound. If there be a Carnoſity in the Caul, form'd by its Adheſion to the Muſcles and *Peritonæum*, this Fleſhy Maſs muſt be intirely looſen'd, and a Ligature made to take it away, with part of the Caul, as we have already ſhewn in the *Gaſtroraphy*. Afterward it muſt be ſewed up, as in that Operation, and the Wound muſt be dreſs'd, obſerving the ſame Precautions. The Dreſſing is to be ſupported in like manner with the Napkin and Scapulary.

CHAP. XIII.

Of the Operation of the Bubonocele, *and of the compleat Rupture.*

WHEN the inteſtinal Parts are fallen into the Groin, or the *Scrotum*, the Operation of the *Bubonocele* is to be perform'd: In order to this, let the Patient be laid on his Back, with his Buttocks ſomewhat high; then ſtripping the Skin a-croſs the Tumour, let the Surgeon hold it on one ſide, and the Aſſiſtant on the other, till he makes an Inciſion, following the Bending of the Groin; when the Fat appears, let him tear off either with a Fleam, or with his Nails every thing that lies in the way, till the Gut be laid open, which muſt be drawn out a little, to ſee if it do not cleave to the Rings of the Muſcle. The Gut muſt be gently handled to diſſolve the Excrements; and thoſe Parts muſt be afterward put again into the Belly (if it be poſſible) with the two Fore-Fingers, thruſting 'em alternatively: but if they cannot be reduc'd, the Wound muſt be dilated upward, by introducing a Director into the Belly, which by its Channel guides the Point of the Sciſſars, and prevents their hurting the Part. If the Probe cannot enter, the Inteſtine muſt be taken out a little, laying your Finger upon it near the Ring, and making a ſmall Scarification in the Ring, with a ſtraight Inciſion-Knife, guided with the Finger, to give way for the Entry of the Director; into which may be put a crooked Knife, to cut the Ring, that is to ſay, to dilate the Wound on the inſide; but care muſt be had to avoid penetrating too far, for fear of dividing a Branch of the Arteries: and then the Parts may be put into the Belly. If the Caul caus'd the Rupture, it would be neceſſary to tye it, and to cut off what is corrupted, ſcarifying the Ring on the inſide, to make a good Cicatrice or Scar.

The Dreſſing and Bandage

The Dreſſing is made with a Tent of Rags, which ought to be ſoft and blunt at the end, and of a ſufficient thickneſs and length, to hinder the Guts from forcing through the Rings by their Impulſion, a Thread being ty'd thereto, to draw it out as occaſion ſerves. Then Pledgits are to be put into the Wound, after they have been dipt in a good Digeſtive, ſuch as Turpentine with the Yolk of an Egg, applying at the ſame time a Plaiſter, a Compreſs of a Triangular Figure, and the Bandage call'd *Spica*; which is made much after the ſame manner, as that in the Fracture of the Clavicle.

Of the compleat Hernia *or Rupture.*

It happens when the Inteſtinal Parts fall into the *Scrotum* in Men, or into the Lips of the Womb in Women. To perform this Operation, the Patient muſt be laid upon his Back, as in the *Bubonocele*, and the Inciſion made after the ſame manner. This muſt be continu'd into the *Scrotum*, tearing the Membranes till the Gut lie bare. Next it muſt be examin'd, whether any Parts adhere to the Teſticle; if the Caul does, it muſt be taken off, leaving a ſmall Portion on the Teſticle; but if it be the Gut, and thoſe Parts cannot be ſeparated without hurting one of them, it is better to take off part of the Teſticle than the Inteſtine. If the Caul be corrupted, it muſt be cut to the ſound Part. In the laſt place, the Wound muſt be dreſs'd with Doſils, Pledgits, and the Bandage *Spica* made as in the *Bubonocele*.

CHAP. XIV.

Of the Operation of Caſtration.

THE Mortification, or the *Sarcocele* of the Teſticles, gives occaſion for this Operation. To perform it, the Patient muſt be laid upon his Back, with his Buttocks higher than his Head, his Legs being kept open, and the Skin of the *Scrotum* taken up, one end of which is to held by a Servant, and the other by the Surgeon: who having made a longitudinal Inciſion therein, or from the top to the bottom, muſt ſeparate the Fleſhy Subſtance of the *Dartos* which covers the Teſticle, and tie the Veſſels that lie between the Rings and the Tumour, cutting them off a Fingers breadth beneath the Ligature: But care muſt be taken to avoid binding the Spermatick Veſſels too hard, for fear of a Convulſion, and to let one end of the Thread paſs without the Wound. If an Excreſcence of Fleſh ſtick to the Teſticle, and it be moveable or looſe, it muſt be taken off neatly, leaving a ſmall Portion of it on the Teſticle: and if any conſiderable Veſſels appear in the Tumour, they muſt be ty'd before they are cut.

The Dreſſing and Bandage.

The Dreſſing is made with Doſils and Pledgits, with which the *Scrotum* is to be filled; and the proper Bandage is the *Suſpenſory* or Bag-Truſs. It has four Tails, the upper, as a Girth, goes round the Body; and the lower paſſing between the Thighs, are faſtened behind to the Girth.

There is alſo another Bandage of the *Scrotum*, having in like manner four Tails, of which the two upper make the Girt; but it is ſlit at the bottom and hath no Seams; the lower Tails croſſing one another, paſs between the Thighs, and are join'd to the Girth. Both theſe ſorts of Bandages have a Hole to give Paſſage to the Yard.

CHAP. XV.

Of the Operation of the Stone in the Urethra.

IF the Stone be ſtopt at the *Sphincter* of the Bladder, it ought to be thruſt back with a Probe: If it ſtick at the end of the *Glans*, it may be preſs'd to let it out; and if it cannot come forth, a ſmall Inciſion may be made in the opening of the *Glans* on its ſides.

But if the Stone be remote from the *Glans*, it is requiſite to make an Inciſion in the *Urethra*; to which purpoſe, the Surgeon having caus'd the Skin to be drawn upward, muſt hold the Yard between his two Fingers, making a Longitudinal Inciſion on its ſide upon the Stone, which muſt be preſſed between the Fingers to diſcharge it; or elſe it may be taken out with an Extractor. Then if the Inciſion were very ſmall, the Skin needs only to be let go, and it will heal of it ſelf; but if it were large, a ſmall Leaden Pipe is to be put into the *Urethra*, leſt it ſhould be altogether clos'd up by the Scar. It is convenient to anoint the the Pipe with ſome Deſiccative Medicine, and to dreſs the Wound with Balſam. Laſtly, a little Linen Bag or Caſe is to be made, in which the Yard is to be put, to keep on the Dreſſing; but it muſt be pierc'd at the end, for the convenicence of making Water, having two Bands at the other end, which are ty'd round the Waſte.

CHAP. XVI.

Of the Operation of Lithotomy.

THIS Operation is undertaken, when it is certainly known that there is a Stone in the Bladder; to be aſſur'd of which, it may not be improper to introduce a Finger into the *Anus* near the *Os Pubis*, by which means the Stone is ſometimes felt, if there be any. The Finger is likewiſe uſually put into the *Anus* of young Virgins, and into the *Vagina Uteri* of Women, for the ſame purpoſe. But it is more expedient to make uſe of the *Catheter*, anointed with Greaſe, after this manner: The Patient being laid on his Back, the Operator holds the Yard ſtrait upward, the *Glans* lying open between his Thumb and Fore-finger; then holding the *Catheter* with his Right-hand on the ſide of the Rings, he guides it into the Yard, and when it is entered, turns the Handle toward the *Pubes*, drawing out the Yard a little, to the end that the Duct of the *Urethra* may lie ſtraight. If it be perceiv'd that the Probe hath not as yet paſs'd into the Bladder, let him put his Finger into the *Anus* to conduct it thither. Afterward, in order to know whether a Stone be lodg'd in the Bladder, the Inſtrument ought to be ſhaken a little therein, firſt on the Right-ſide, and then on the Left; and if a ſmall Noiſe be heard, it may be concluded for certain that there is a Stone: But if it be judg'd that the Stone ſwims in the Bladder, ſo that it cannot be felt, the Patient muſt be oblig'd to make Water through the *Catheter*.

Another manner of ſearching may be practis'd thus: Let the Yard be rais'd, inclining a little to the ſide of the Belly; let the Rings of the *Catheter* be turn'd towards the Belly, and the End on the ſide of the *Anus*; and then let this Inſtrument be introduc'd, ſhaking it a little on both ſides to diſcover the Stone.

In order to perform the Operation of Lithotomy, the Patient muſt be laid along upon a Table of a convenient Height, ſo that a Surgeon may go about his Work ſtanding; the Patient's Back muſt alſo lean upon the Back of a Chair

a Chair, laid down, and trimm'd with Linen Cloth, leſt it ſhould hurt his Body; his Legs muſt be kept aſunder, and the Soles of his Feet on the ſides of the Table, whilſt a Man gets up behind to hold his Shoulders: his Arms and Legs muſt be alſo bound with Straps or Bands. Then a channell'd *Catheter* being put up into the Bladder, the Servant ſtanding upon the Table on the ſide of the Chair, holds the Back of the Inſtrument between his two Fore-Fingers, on that Part of the *Perinæum* where the Inciſion ought to be begun, which is to be made between his Fingers with a ſharp Knife that cuts on both ſides. The Inciſion may be three or four Fingers breadth, on the left ſide of the *Raphe* or Suture: But in Children its length muſt not exceed two Fingers breadth. If the Inciſion were too little to give paſſage to the Stone, it would be more expedient to inlarge it than to ſtretch the Wound with the *Dilaters*. When the Convex Part where the channelling of the *Catheter* is, ſhall be well laid open, the Conductors may be ſlipt into the ſame Channelling, between which the *Forceps* is to be put, having before taken away the *Catheter*. Some Operators make uſe of a *Gorget* or Introductor to that purpoſe, conveying the End of it into the channelling of the *Catheter*; which is remov'd to introduce the *Forceps* into the Bladder: And as ſoon as they are fixt therein, the Conductors or *Gorget* muſt be likewiſe taken out. Afterward ſearch being made for the Stone, it muſt be held faſt, and drawn out of the Bladder. But if the Stone be long, and the Operator hath got hold thereof by the two Ends, he muſt endeavour to lay hold on it again in the middle, to avoid the great tearing that would happen in the Paſſage. The Stones are alſo ſometimes ſo large, that there is an abſolute neceſſity of leaving them in the Bladder. Again, if the Stone ſticks very cloſe to the Bladder, the Extraction ought to be deferr'd for ſome time, and perhaps it may be looſen'd in the Suppuration. Laſtly, when the Stone hath been taken out, an Extractor is uſually introduc'd into the Bladder, to remove the Gravel, Fragments, and Clots of Blood.

After the Operation, the Patient is carry'd to his Bed, having before cover'd the Wound with a good Bolſter; and if an Hæmorrhage happens, it is to be ſtopt with Aſtringents. A Tent muſt alſo be put into the Wound,

when it is ſuſpected that ſome Stone or Gravel may as yet remain therein: But if it evidently appears that there is none, the Wound may be dreſt with Pledgits, a Plaiſter, and a Bolſter, of a Figure convenient for the Part. The Dreſſing may be kept up with a Sling ſupported by a Scapulary; or elſe the Bandage of the double T may be us'd, the manner of the Application of which we have ſhewn elſewhere. The Patients Thighs muſt be drawn cloſe one to another, and ty'd with a ſmall Band, leſt they ſhould be ſet aſunder again.

The Operation of Lithotomy in Women is uſually perform'd by the *Leſſer Apparatus*, which is done by putting the Fore-Finger and Middle-Finger into the *Vagina Uteri*, or into the *Rectum* in young Virgins, to draw the Stone to the Neck of the Bladder, and keep it ſteady, ſo that it may be taken out with a Hook or other Inſtrument.

This Operation may alſo be effected in Women, almoſt in the ſame manner as in Men: for after having caus'd the Female Patient to be ſet in the ſame Poſture or Situation as the Men are uſually plac'd, according to the preceding Deſcription, the Conductors may be convey'd into the *Urethra*, to let in the *Forceps* between them, with which the Stone may be drawn out: But if it be too thick, a ſmall Inciſion is to be made in the Right and Left ſide of the *Urethra*.

The *Leſſer Apparatus* was formerly us'd in the Lithotomy of Men, after this manner: The Finger was put into the *Anus*, to draw the Stone toward the *Perinæum*; then an Inciſion was made upon the Stone on the ſide of the Suture, and it was taken out with an Inſtrument.

CHAP.

CHAP. XVII.

Of the Operation of the Puncture of the Perinæum.

THis Operation is neceſſary in a Suppreſſion of Urine, where the Inflammation is ſo great, that the *Catheter* cannot be introduc'd. Then an Inciſion is to be made with a Knife or Lancet, in the ſame Place where it is done in Lithotomy; and a ſmall Tube or Pipe is to be put in the Bladder, till the Inflammation be remov'd.

CHAP. XVIII.

Of the Operation of the Fiſtula in Ano.

Fiſtulas are Callous Ulcers: If one of theſe happens in the Fundament, and is open on the outſide, it may be cur'd thus: After the Patient hath been laid upon his Belly on the ſide of the Bed, with his Legs aſunder, the Surgeon makes a ſmall Inciſion with his Knife in the Orifice of the *Fiſtula*, in order to paſs therein another ſmall crooked Inciſion-Knife, at the end of which is a pointed Probe with a little Silver Head which covers it, to the end that it may enter without cauſing Pain. When the Surgeon hath convey'd his Knife into the *Fiſtula*, having the Fore-Finger of his Left-hand in the *Anus* or Fundament, he pulls off its Head, holding the Handle with one hand, and the Probe that pierceth the *Anus* with the other; and at laſt draws out the Inſtrument to cut the *Fiſtula* intirely at one Stroke.

If the *Fiſtula* hath an Opening into the Inteſtine, an Inciſion is to be made on the outſide at the bottom thereof, to open it in the Place where a ſmall Tumour or Inflammation uſually appears, or elſe in the Place where the Patient feels a Pain when it is touch'd. If the Tumour be remote from the *Anus*, it may be open'd with the Po-

tential Cautery, to avoid a greater Inconvenience. After having thus laid open the very bottom, the little Incision-Knife and Probe, with its Head, is to be pass'd therein, the end of the Probe is to be drawn thro' the *Anus*, and the Flesh is to be cut all at once. But if the *Fistula* be situated too far forward in the Fundament, the *Sphincter* of the *Anus* must not be intirely cut, for then the Excrements cannot be any longer retain'd. Lastly, when the *Fistula* hath been treated after this manner, all its Sinuosities ought likewise to be open'd; and the Wound being fill'd with thick Pledgits steep'd in some Anodyne, is to be cover'd with a Plaister and a Triangular Compress, and the Bandage call'd the T made.

CHAP. XIX.

Of the Suture or Stitching of a Tendon.

THIS Operation is made when the Tendons are cut, and big enough to bear it. If the Wound be heal'd, it must be open'd again to lay the Tendons bare, and the Part must be bended, to bring together their Ends. Then the Surgeon taking a flat, straight, and fine Needle, with a double wax'd Thread, passes it into a small Bolster, and makes a Knot at the end of the Thread, which must rest upon the Bolster. Afterward he pierces the Tendon from the Outside to the Inside, at a good distance, lest the Thread should tear it, and proceeds to pass the Needle in like manner under the other End of the Tendon, upon which is laid a small Bolster, for the Thread to be ty'd in a Knot over it. Then he causes the Extremities of the Tendons to lie a little one upon another, by bending the Part; and dresseth the Wound with some Balsam. It may not be improper here to observe, that Ointments are never to be apply'd to the Tendons, which would cause 'em to putrifie, but altogether Spiritous Medicaments; and that the part must be kept bent, lest the Extension of it should separate the Tendons.

CHAP.

CHAP. XX.

Of the Cæſarean *Operation.*

WHEN a Woman cannot be deliver'd by the ordinary means, this bold and dangerous Operation hath been ſometimes perform'd with good Succeſs. The Woman being laid upon her Back, the Surgeon makes a Longitudinal Inciſion beneath the Navel, on the ſide of the White-line, till the Womb appears, which he openeth, taking great Care to avoid wounding the Child; then he divides the Membranes with which it is wrapt up, ſeparates the After-burthen from the Womb, and takes out the Child. Laſtly, he waſheth the Wound with warm Wine, and makes the *Gaſtroraphy* or ſtitching up of the Belly, without ſewing the Womb. After the Operation, Injections are to be made into the *Matrix*, to bring away the Blood; and a pierc'd Peſſary muſt be introduc'd into its Neck.

CHAP. XXI.

Of the Operation of Amputation, *with its proper Dreſſings and Bandages.*

THE Leg is uſually cut off about the Place where the Garter is commonly ty'd; the Thigh as near as can be to the Knee; and the Arm as near as poſſible to the Wriſt: But an Amputation is never made in the Articulation, except in Fingers and the Toes.

In order to cut off a Leg, the Patient is to be ſet on the ſide of his Bed, or in a Chair, and ſupported by divers Aſſiſtants; one of them being employ'd to hold the Leg at the bottom, and another to draw the Skin upward above the Knee, to the end that the Fleſh may cover the Bone again after the Operation. In the mean while a very thick Bolſter is laid under the Ham,

Ham; upon which are made two Ligatures, *viz.* the firſt above the Knee to ſtop the Blood, by ſcrewing it up with the *Torniquet* or *Gripe-ſtick*; and the ſecond below the Knee, to render the Fleſh firm for the Knife. Before the Ligature is drawn cloſe with the *Gripe-ſtick*, a little Piece of Paſtboard is to be put underneath for fear of pinching the Skin. Thus the Leg being well fix'd, the Surgeon placeth himſelf between both the Legs of the Patient, to make the Inciſion with a crooked Knife, turning it circularly to the Bone, and laying one Hand upon the back of the Knife, which muſt have no Edge. Afterward the *Perioſteum* is to be ſcrap'd with an Inciſion-Knife, and the Fleſh, with the Veſſels that lie between the two Bones, to be cut. When the Fleſh is thus ſeparated, a cleft Band is to be laid upon it, of which the Heads are to be croſs'd, to draw the Fleſh upward, to the Intent that the Bones may be cut farther, and that it may cover them after the Amputation, as alſo to facilitate the Paſſage of the Saw. Then the Surgeon holds the Leg with his Left-Hand, and ſaweth with his Right, which he lets fall upon the two Bones, to divide them aſunder at the ſame time, beginning with the *Perone* or *Fibula*, and ending with the *Tibia*. But it is neceſſary to incline the Saw, and to go gently in the beginning, to make way for it, and afterward to work it faſter. The Leg being cut off, the Ligature muſt be unty'd below the Knee, looſening the *Gripe-ſtick* to let the Blood run a little, and to diſcern the Veſſels with greater facility; and then the *Gripe-ſtick* may be twiſted again to ſtop the Blood; which ſome Surgeons effect by laying Vitriol-Buttons upon the Opening of the Arteries, and aſtringent Powders, on a large Bolſter of Cotton or Tow, to be apply'd to the End of the Stump; but if ſuch a Method be us'd, it is requiſite that ſome Perſon be employ'd to keep on the whole Dreſſing with his Hand during twenty four Hours. However this Cuſtom has prevail'd in the Hoſpital of *Hôtel Dieu* at *Paris*.

Others make a Ligature of the Veſſels, taking up the Ends of them with a Pair of *Forceps*, having a Spring; or with the *Valet a Patin*, which is a ſort of Pincers that are clos'd with a ſmall Ring let down to the bottom of the Branches. Theſe Pincers being held by a Servant, the Surgeon paſſeth a Needle with wax'd Thread, into the Fleſh,

Fleſh, below the Veſſel, bringing it back again, and with the two ends of the Thread makes a good Ligature upon the ſame Veſſel: then he looſeth the *Gripe-ſtick* and the Band, the Stump is to be ſomewhat bended, and the Fleſh let down to cover the Bone.

The Dreſſing and Bandage.

After the Operation, it is requiſite, to lay ſmall Bolſters upon the Veſſels, and dry Pledgits upon the Two Bones, as alſo many other Pledgits ſtrew'd with aſtringent Powders; and over all another large Bolſter or Pledgit of Cotton or Tow, cover'd in like manner with aſtringent Powders; then the whole Dreſſing is to be wrapt up with a Plaiſter and a Bolſter, in form of a *Malta*-Croſs; ſo that there are three or four Longitudinal Bolſters, and one Circular.

The Surgeon uſually begins to apply the *Malta*-Croſs and Bolſter under the Ham, croſſing the Heads or Ends upon the Stump, and cauſeth them to be held by a Servant that ſupports the Part; then he likewiſe croſſeth the other Heads, and laying on the two Longitudinal Bolſters that croſs each other in the middle of the Stump, together with a third Longitudinal, which is brought round about the Stump, to ſtay the Two former: Theſe Bolſters ought to be three Fingers broad, and very long, to paſs over the Stump. Afterward he proceeds to apply

The Bandage commonly call'd Capeline *by the* French *Surgeons.*

This is made with a Band four Ells long, and three Fingers broad, roll'd up in a Ball, three Circumvolutions being made on the ſide of the Part which is amputated; the Band is to be carry'd upward with Rollers, paſſing obliquely above the Knee, and is brought down again over its former Turns. If it be thought fit to make this Bandage with the ſame Band, it muſt be let down to the Middle of the amputated Part, and carry'd up again to the Knee, many back-folds being made, which

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are ſtay'd with the Circumvolutions, till the Stump be intirely cover'd, and the whole Bandage wrapt up with Rollers or Bolſters.

The *Capeline* with two Heads is made with a Band of the ſame breadth, but ſomewhat longer This Band being at firſt apply'd to the middle of the Wound, the Heads are carry'd up above the Knee, and one of the Ends turn'd backward to bring it down, and to paſs it over the End of the Stump. At every back-fold which is form'd above and below the Knee, a Circumvolution is to be made with the other End of the Band, to ſtrengthen the back-folds, continuing to bring the Band downward and upward, till the whole Stump be cover'd: then Edgings are made round the Stump, and the Band is ſtay'd above the Knee. Afterward the Part may be brought to Suppuration, be cleans'd, and cicatriz'd.

CHAP. XXII.

Of the Operation of the Aneuriſm.

THIS Operation is perform'd when the Surgeon hath prick'd an Artery, or when a Tumour ariſeth in an Artery.

To this purpoſe the Patient is ſet in a Chair, and a Servant imploy'd in holding his Arm in a Poſture proper for the Operation; then a Bolſter is to be laid four double, following the Progreſs of the Artery, to the end that the Ligature may better preſs the Veſſel; and the Arm may be alſo ſurrounded with another ſingle Bolſter, on which is made a Ligature ſcrew'd up with a *Gripe-ſtick*, provided the Arm be not too much ſwell'd; for in this Caſe it would be more expedient to defer the Operation for fear of a Gangrene. The Artery being thus well ſtopt, the Surgeon lays hold on the Arm with one Hand, below the Tumour, and with the other makes an Inciſion with his Lancet, beginning at the bottom of the Tumour, and ending on the top, along the Progreſs of the Artery. When the Tumour is open'd, the coagulated Blood may be diſcharg'd with the Finger: and if there are any Strings

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at the bottom, they may be cut with a crooked Pair of Sciſſars, to the end that all Clots of Blood, and other extraneous Bodies (which are ſometimes form'd in *Aneuriſms* when they are very inveterate) may be more eaſily remov'd. But the *Gripe-ſtick* muſt be looſen'd, to diſcover the Opening of the Artery with greater Facility, and the Artery ſeparated from the Membranes with a Fleam; for it would be dangerous to cut it with a ſtreight Inciſion-Knife. The Artery muſt alſo be ſupported with a convenient Inſtrument to divide it from the Nerve and Membranes; and to be aſſur'd of the Place of its Opening, the *Gripe-ſtick* may be ſomewhat looſen'd, and afterwards ſcrew'd up again. In the time the Surgeon gives the Inſtrument to a Servant to hold, whilſt he paſſeth under the Artery a crooked Needle with a wax'd String, cuts the Thread, and takes away the Needle: then he begins to make the Ligature above the Opening of the Artery, tying at firſt a ſingle Knot, on which may be put (if you pleaſe) a ſmall Bolſter, that may be kept ſteady with two other Knots: it is alſo neceſſary, that another Ligature be made in the lower part of the Artery, by reaſon that the little lateral Arteries might otherwiſe let out Blood.

The Artery ought not to be cut between the two Ligatures, leſt the firſt Ligature ſhou'd be forc'd by the Impulſion of the Blood: but the Thread muſt be let fall, that it may rot with the Suppuration. Then the Wound may be dreſs'd with Pledgits, Bolſters ſtrew'd with aſtringent Powders and a Plaiſter; a Bolſter being alſo laid in the bending of the Elbow.

The Bandage

Is made with a Band ſix Ells long, and an Inch broad, roll'd up at one end, being at firſt applied with divers Circumvolutions under the Elbow, and moderately bound. Many turns are to be made, and a thick and ſtreight Bolſter is to be laid upon the Tumour, (as in the Bandage for Phlebotomy) along the Artery, till it paſs under the Armpit: the Arm and Bolſter muſt be ſurrounded with the Band, which is brought up with ſmall Rollers to the Armpit, and ſtay'd with Circumvolutions round about the Breaſt. Afterward the Patient is to be laid in his Bed, the Arm lying ſomewhat bended on the Pillow, and the Hand a little higher than the Elbow.

CHAP. XXIII.

Of the Operation of Phlebotomy.

TO perform this Operation, the Surgeon holds the Lancet between his Thumb and Fore-Finger, the three other Fingers lying upon the Patient's Arm, and thrusts the Point of the Lancet into the Vessel, carrying the same Point somewhat upward, to make the Orifice the greatet. If a Tendon, which is known by its hardness; or an Artery, which is discover'd by Pulsation, appear beyond the Vein, and very near it, the Lancet must be only thrust into the Vein, and drawn back again streight, without turning up its Point, otherwise the Artery or Tendon would be certainly cut with the Point. If the Artery or Tendon lies immediately under the Vein, the latter must be prick'd somewhat above, holding the Lancet inclin'd side-ways, and thrusting it very little forward; so that the Point will finish the Opening, by turning it upward.

If the Artery adhere closely to the Vein, the latter is to be prick'd higher or lower than it is ordinarily done: and if the Vein be superficial, and lie close upon a hard Muscle, the Lancet must not be thrust downright into the Vein, but it is requisite to carry it somewhat obliquely, and to take the Vessel above, lest the Muscle and its Membrane should be prick'd, which would cause a great deal of Pain, and perhaps a vehement Inflammation. It is well known that the Veins of the Right Arm are usually open'd with the Right-Hand, and those of the Left-Arm with the Left-Hand.

The Bandage

Is made thus: the Surgeon having laid a Bolster upon the Orifice, keeps it close with two Fingers, and holds the Band or Fillet with the other Hand; then taking one end of the Fillet with the Middle-Finger, Fore-Finger, and Thumb, and applying it to the Bolster, he makes with

with the longeſt end of the Fillet, divers Figures in form of the Letter X on the bending of the Arm; as alſo a back-fold with the ſhorter end of the Fillet, held between his three Fingers. Afterward both ends of the Fillet are ty'd beneath the Elbow.

If an Inflammation happens after the Operation, the Bolſters are to be dipped in *Oxycrate*: but if the Orifice were ſo ſmall as to produce a *Thrombus*, it would be requiſite to preſs the Wound often with two Fingers, and immediately to apply a Bolſter dip'd in *Oxycrate*.

CHAP. XXIV.

Of the Operation of Encyſted Tumours.

IF the Tumours are ſmall and pendulous, and have a narrow bottom, a Ligature may be made with Horſe-Hair or Silk dipped in *Aqua-Fortis*, which will cauſe them to fall off of themſelves after ſome time; or elſe they may be cut above the Ligature.

If the Tumour or Wen be thick, and its bottom large, a crucial Inciſion is to be made in the Skin, without impairing the *Cyſtis* or Bag; and when the Inciſion is finiſh'd, the Bag may be torn off with the Nails, or with the Handle of a Pen-Knife; but ſometimes it is neceſſary to diſſect it. If there be any conſiderable Veſſels at the Root, they may be bound or elſe cut; and the Blood may be ſtopt with Aſtringents. If any parts of the *Cyſts* remain, they are to be conſum'd with Corroſives; and the Lips of the Wound are to be drawn together without a Stitch, making uſe only of an agglutinative Plaiſter. But if the Tumour adheres very cloſe to the *Pericranium*, it is moſt expedient not to meddle with it at all.

Of Ganglions.

Ganglions are Tumours ariſing upon the Tendons and Nervous Parts, which may be cur'd by compreſſing them, and making a very ſtrait Bandage, provided they be very recent: a reſolvent Plaiſter is alſo to be apply'd to the Part.

CHAP.

CHAP. XXV.

Of the Operation of the Hydrocephalus.

THIS Operation is perform'd, when it is neceſſary to diſcharge watry Humours out of the Head. If theſe Waters lie under the Skin, a very large Opening is to be made with a Lancet, and a ſmall Tube or Pipe left therein to let them run out. If the Water lie between the Brain and the *Dura Mater*, the Membrane is to be perforated with a Lancet, after the Trepan hath been apply'd according to the uſual Method, of which we have already given ſome account. Cauteries and Scarifications may be alſo us'd to very good purpoſe in this Diſeaſe.

CHAP. XXVI.

Of the Operation of cutting the Tongue-String.

WHEN the Ligament of the Tongue in Infants is extended to its Extremity, they cannot ſuck without difficulty; and when grown up, they have an Impediment in their Speech.

This Ligament may be cut with a little pair of Sciſſars; to which Purpoſe the Thumb of the Left-hand being laid upon the Gum of the lower Jaw, to keep the Mouth open, the Tongue muſt be rais'd with the Fore-Finger of the ſame Hand, and the Sciſſars paſs'd between the two Fingers, to divide the String as near as is poſſible, to the Root of the Tongue, avoiding the Veſſels: if an Hæmorrhage happens, recourſe may be had to Styptick Waters. Afterward the Nurſe muſt take care to let a Finger be often put into the Child's Mouth, to prevent the re-uniting of the String.

CHAP. XXVII.

Of the Operation of opening ſtopt Ductus's.

IF there be only one Membrane that ſtops the Entrance of the *Vagina*, an Inciſion may be made, and a Leaden Pipe put into it, having Rings to faſten it to the Waſte, to hinder the reuniting of the Wound.

If the Lips of the *Pudendum* are clos'd, the Patient muſt be laid upon her Back, and her Knees rais'd, in order to make an Inciſion with a crooked Inciſion-Knife, beginning at the Top; and then a Leaden Pipe is to be put into the Orifice.

If the *Vagina* be fill'd with a Fleſhy Subſtance, an Inciſion muſt be made therein, till it be intirely perforated, putting at the ſame time a Leaden Tube into the Orifice.

If the Urinary *Ductus*, as well in young Boys as in Virgins, be ſtopt up, an Inciſion is to be made therein with a very narrow Lancet; and if a ſmall Leaden Pipe can be conveniently introduc'd, it may be done; but it is not very neceſſary, in regard that Children are almoſt always making Water, which would of it ſelf hinder the cloſing of the Orifice.

If the *Ductus* of the Ear be ſtopt with a Membrane, it muſt be perforated, taking care not to go too far, for fear of piercing the Membrane of the *Tympanum* or Drum, and a ſmall Leaden Pipe is to be put into the Opening.

If there be a carnous Excreſcence on the outſide of the Ear, a Ligature ought to be made on it; or elſe it may be cut off with a Pair of Sciſſars, and the reſt of the Fleſhy Subſtance that remains in the Ear muſt be conſum'd with Cauſticks, convey'd to the Part by the means of a ſmall Tube, care being had nevertheleſs, to avoid hurting the *Tympanum*.

CHAP. XXVIII.

Of the Operation of the Phymosis *and* Paraphymosis.

WHEN the *Præputium* is so streight that the *Glans* can be no longer uncover'd, this Indisposition is call'd *Phymosis*: but if the *Præputium* be turn'd back above the *Glans*, after such a manner that it can no longer cover the same, it is a *Paraphymosis*. If in the *Phymosis* the *Præputium* cleaves very close round the *Glans*, it is best to let it alone; but if in handling the *Glans* it be perceiv'd that it is moveable, or else that some parts of it only stick together, the Operation may be perform'd after this manner: the Patient being set in a Chair, let a Servant pull back the Skin to the Root of the *Penis*, to the end that the Incision may be made directly at the bottom of the *Glans*: then the Surgeon having drawn out the bottom of the *Præputium*, introduces a small Instrument with a very sharp Point on its flat side, at the end of which is fix'd a Button of Wax, pierces the *Præputium*, at the bottom of the *Glans* on the side of the Thread, and finisheth the Incision by drawing the Instrument toward himself.

The *Paraphymosis* is cur'd by making Fomentations on the Part, to allay the Inflammation, if there be any; and it is to be pull'd down with the Fingers. But if Medicinal Preparations prove ineffectual, Scarifications are to be made round about the *Præputium*; and afterward convenient Remedies may be apply'd to remove the Inflammation, and prevent the Mortification of the Part, so that at length the *Præputium* may be drawn over the *Glans*.

CHAP. XXIX.

Of the Operation of the Varix.

IN order to cure this Tumour, the Surgeon, having first cut the Skin to discover the dilated Vein, separates it from the Membranes, and passeth underneath a crook-

crooked Needle with a double wax'd Thread; then he makes a Ligature both above and below the dilatation of the Vein, opens the dilated Part with a Lancet, to let out the Blood, and applies a convenient Bandage. But without performing this Operation, the Vein might be open'd with a Lancet, to draw out a ſufficient quantity of Blood, and then the *Varix* is to be preſs'd with a ſomewhat cloſer Bandage.

CHAP. XXX.

Of the Operation of the Panaritium.

THE *Panaritium* is an Abſceſs which ariſeth at the end of the Fingers: ſome of the Tumours are only ſuperficial, and others penetrate even under the *Perioſteum*; nevertheleſs, after whatſoever manner the *Panaritium* may happen, it ought to be open'd on the ſide of the Finger, that the Tendons may not be hurt. If the Abſceſs be extended under the *Perioſteum*, the opening muſt be made on the ſide, and the Lancet thruſt forward to the Bone: Afterward the *Pus* or corrupt Matter is to be diſcharg'd, which would cauſe the Tendons to putrifie, if it ſhould remain too long upon them.

The Dreſſing and Bandage

Are made with a Plaiſter cut in form of a *Malta*-Croſs, whoſe middle is apply'd to the end of the Finger, the Tails being croſs'd round it. The Bolſters muſt be alſo cut in the ſhape of the *Malta*-Croſs, or of a plain Croſs only; the Band being a Finger's breadth wide; and long enough to be roll'd about the whole Dreſſing: It muſt be pierc'd at one of its ends, and ſlit the length of three Fingers at the other; ſo that the two Heads may paſs through the Hole, to roll up the Fingers with ſmall Edgings.

CHAP. XXXI.

Of the Reduction of the falling down of the Anus.

TO reduce the *Anus* to its proper place when it is fallen down, the Patient being laid upon his Belly, with his Buttocks higher than his Head, the Operator gently thrusts back the Roll, made by the Protrusion of the Fundament, with his Fingers dipt in the Oil of Roses. Then he applies Bolsters steept in some astringent Liquor; which must be supported with a sort of Bandage, the Nature of which we shall shew in treating of the Fracture of the *Coccyx*, the T, the double T, or else the Sling with four Tails.

CHAP. XXXII.

Of the Reduction of the falling down of the Womb.

IN this Operation, the Patient being laid upon her Back, with her Buttocks rais'd up, Fomentations are to be apply'd to the Part, a Linen Cloth is to be laid upon the Neck of the Womb which is out of its Place, and it is to be put up very gently with the Fingers, without using much force. If the Womb should fall down again, it would be requisite to convey a Pessary into it, after it hath been reduc'd; and to injoyn the Patient to lie on her Back with her Legs a-cross.

CHAP.

CHAP. XXXIII.

Of the Application of Cauſticks.

A Cautery is an Ulcer made in the Skin, by applying Cauſticks to it, after this manner:

The Surgeon having moiſten'd the Skin for a while with Spittle, or elſe having caus'd a light Friction to be made with a warm Cloth, applies a perforated Plaiſter, to the Parts, and lays the Cauſtick on the Hole, leaving it for a longer or ſhorter time, according as he knows its Efficacy, or as the Skin is more or leſs fine. Afterward he ſcarifies the burnt place with his Lancet, and puts a Suppurative, or piece of freſh Butter on the Part, 'till the Eſcar be fallen off.

The Dreſſing and Bandage.

After the Application of the *Lapis Infernalis*, or any other Cauſtick, it is neceſſary to lay on it a Plaiſter, a Bolſter, and a Circular Bandage; which ought to be kept ſufficiently cloſe to preſs the Stone, having firſt put a Pea, or little piece of Orice-Root, into the Ulcer, to keep it open. Then the Patient is to make uſe of this Bandage, with which he may dreſs it himſelf. Take a Piece of very ſtrong Cloth, large enough to go round the part without croſſing over it; and let three or four Holes be made in one of its ſides, as many ſmall Ribbands or pieces of Tape being ſew'd to the other, which may be let into the Holes, as occaſion ſerves to cloſe the Band.

CHAP. XXXIV.

Of the Application of Leeches.

THE Leeches muſt be taken in clear running Waters, and be long and ſlender, having a little Head, the Back green with yellow Streaks, and the Belly ſomewhat reddiſh. Before they are apply'd, let them purge during ſome Days in fair Water, and faſt half a Day in a Box without Water. Afterward the part being rubb'd or chaff'd with warm Water, Milk, or the Blood of ſome Fowl, the Opening of the Box is to be ſet to the Part, or the Leeches themſelves laid upon a Cloth; for they will not faſten when taken up with the Fingers. The End of their Tail may be cut with a Pair of Sciſſars, to ſee the Blood run, and to determine its Quantity, as alſo to facilitate their Sucking. When you would take them away, put Aſhes, Salt, or any other ſharp thing upon their Head, and they will ſuddenly deſiſt from their Work; but they are not to be pull'd off by force, leſt they ſhould leave their Head or Sting in the Wound, which would be of very dangerous Conſequence. When they are remov'd, let a little Blood run out, and waſh the Part with ſalt Water.

The Dreſſing

Is made with a Bolſter ſoak'd in ſome Styptick Water, if the Blood will not otherwiſe ſtop; or in Brandy, if there be an Inflammation; and this is to be kept on with a Bandage proper for the Part.

CHAP. XXXV.

Of the Application of the Seton.

TO perform this Operation, a Cotton-Thread is to be taken, after it hath been dipt in Oil of Roſes, and let into a kind of Pack-Needle; then the Patient ſitting in a Chair, is to hold his Head backward, whilſt the Surgeon gripes the Skin tranſverſely in the Nape of the Neck with his Fingers, or elſe takes it up with a Pair of *Forceps*, and paſſeth the Needle through the Hole of the *Forceps*, leaving the String in the Skin. As often as the Bolſter that covers the *Seton* is taken off, that Part of the String which lies in the Wound is to be drawn out, and cut off.

CHAP. XXXVI.

Of Scarifications.

SCARIFICATIONS are to be made more or leſs deep, according as Neceſſity requires, beginning at the bottom, and going upward, to avoid being hinder'd by the Hæmorrhage. They muſt alſo be let one into another, that Strings may not be left in the Skin.

CHAP. XXXVII.

Of the Application of Veſicatories.

VESICATORIES are compounded of the Powder of *Cantharides* or *Spaniſh* Flies, mix'd with very ſower Leaven, or elſe with Turpentine. Before they are apply'd, a light Friction is to be made on the Part with a warm Cloth, and a greater or leſſer Quantity is to be laid on, according as the Skin is more or leſs fine, leaving 'em on the Part about ſeven or eight Hours; then they are to be taken away, and the Bliſters are to be open'd, applying thereto ſome ſort of Spirituous Liquor.

CHAP. XXXVIII.

Of the Application of Cupping-Glaſſes.

A Good Friction being firſt made with warm Cloths, lighted Tow is to be put into the Cupping-Glaſs, or elſe a Wax-Candle faſten'd to a Counter, and then it is to be apply'd to the Part, till the Fire be extinguiſh'd, and the Skin ſwell'd, reiterating the Operation as often as it is neceſſary; and afterward laying on a Bolſter ſteep'd in Spirit of Wine. Theſe are call'd Dry Cupping-Glaſſes. But if you wou'd draw Blood, every thing is to be obſerv'd that we have now mention'd, beſides that Scarifications are to be made, according to the uſual manner; and the Cupping-Glaſs is to be ſet upon the Scarifications: but when the Cupping-Glaſs is half full of Blood, it muſt be taken off to be empty'd, and the Application thereof is to be re-iterated, as often as it is requiſite to take away any Blood. Laſtly, the Inciſions are to be waſh'd with ſome ſpirituous Liquor; and a Bandage is made convenient for the Part.

CHAP. XXXIX.

Of the opening of Abſceſſes *or* Impoſtumes.

AN Abſceſs or Impoſtume ought to be open'd in its moſt ripe Part, and in the Place to which the Humours tend, endeavouring to preſerve the Fibres of the Muſcles from being cut, unleſs there be an abſolute Neceſſity; avoiding alſo the great Veſſels, Tendons, and Nerves. The opening muſt be rather large than ſmall, and not too much preſs'd in letting out the purulent Matter. If the Skin be thick, as it happens in the Heel, it may be par'd with a Razor; and if the Matter be lodg'd under the Nails, it wou'd be requiſite to ſcrape 'em with Glaſs before they are pierc'd.

A TREATISE OF THE OPERATIONS OF FRACTURES.

CHAP. I.

Of the Fracture of the Noſe.

WHEN the Fracture is conſiderable, the Noſtrils are ſtopt up, and the Senſe of Smelling is loſt. In order to reduce it, the Surgeon takes a little Stick wrapped up in Cotton, and introduceth it into the Noſtrils as gently as is poſſible, to raiſe up the Bones again, laying the Thumb of his Left-hand upon the Noſe, to retain them in their Place. The Bones being thus ſet, he proceeds to prepare

The Dreſſing and Bandage,

By conveying into the Noſtrils certain leaden Pipes of a convenient Bigneſs and Figure, which ſerve to ſupport

port the Bones, and to facilitate Reſpiration. But Care is to be had to avoid thruſting them up too far, for fear of hurting the ſides of the Noſe; and they are to be anointed with Oil of Turpentine mix'd with Spirit of Wine. Theſe Pipes muſt have little Handles, with which they may be faſten'd to the Cap. If there be no Wound in the Noſe, there will be no need of a Bandage; but if the Fracture be accompany'd with a Wound, after having apply'd proper Medicines, it will be requiſite to lay upon each ſide of the Noſe a Triangular Bolſter, cover'd with a little piece of Paſte-board of the ſame Figure. This ſmall Dreſſing is to be ſupported with a kind of Sling that hath four Heads; being a Piece of linen Cloth, two Fingers broad, and half an Ell long; it is ſlit at both Ends a long way, only leaving in the middle a Plain of three Fingers, that is to ſay, a Part which is not cut. The Plain of this Sling is to be laid upon the Fracture, cauſing the upper Heads to paſs behind the Nape of the Neck, which are to be brought back again forward: the lower Heads are likewiſe to be carry'd behind croſſing above the upper, and afterwards to be return'd forward. If the Bones of the Noſe be not timely reduc'd, a great Deformity ſoons happens therein, and a Stink caus'd by the Excreſcences and *Polypus's*.

CHAP. II.

Of the Fracture of the lower Jaw.

THE Operator at firſt puts his Fingers into the Patient's Mouth, to preſs the Prominences of the Bones; and afterward doth the ſame thing on the Outſide. If the Bones paſs one over another, a ſmall Extenſion is to be made. If the Teeth be forc'd out of their Place, they are to be reduc'd, and faſten'd to the ſound Teeth with a wax'd Thread.

The

The Dreſſing and Bandage.

If the Fracture be only on one ſide, a Bolſter ſew'd to a piece of Paſte-board is to be laid upon the flat ſide of the Jaw, both being of the Figure and Size of the Jaw it ſelf. The Bandage of this Fracture is call'd *Cheveſtre*, i. e. *a Halter* or *Bridle*, by the *French* Surgeons, and is made by taking a Band roll'd with one Head or End, three Ells long, and two Fingers broad: the Application of it is begun with making a Circumvolution round about the Head in paſſing over the Forehead; then the Band is let down under the Chin, and carry'd up again upon the Cheek, near the leſſer Corner of the Eye in paſſing over the Fracture; afterward it is brought over the Head, and down again under the Chin, to form a Roller or Bolſter upon the Fracture: Thus three or four Circumvolutions and Rounds being made upon the Fracture, the Band is let down under the Chin, to ſtay and ſtrengthren its ſeveral Turns, and is terminated round the Head, in paſſing over the Fore-head.

If the Jaw be fractur'd on both ſides, it wou'd be requiſite to apply thereto a Bolſter and Paſte-board, perforated at the Chin, and of the Figure of the intire Jaw: the Bandage which we have even now deſcrib'd, may be alſo prepar'd in making Turns on both ſides of the Jaw. Or elſe the double *Cheveſtre* may be made with a Band of five Ells long, and two Fingers broad, roll'd up with two Balls, that is to ſay, with two Ends. The Application of this Band is begun under the Chin, from whence it is carry'd up over the Cheek, croſs'd upon the Top of the Head, and brought down behind the Head, where it is croſs'd again; then it is let down under the Chin, croſs'd there, and carry'd up over the Fracture; afterward the Band being paſs'd three or four times over the ſame Turns, in making Rollers upon the Jaws, is turn'd upon the Chin, and ſtay'd upon the Forehead round about the Head.

A Remark of Monſ. Arnaud.

In all Fractures and Luxations of the lower Jaw, M. *Arnaud* uſes only the *Fronde* or Sling with four Tails, large

large enough to embrace the whole Chin: it muſt have a Hole in the Middle of it to put the End of the Chin thro'; then it is to be applied like other Slings, by paſſing the Tails over the Head. This is far more convenient than any Bandages formerly in uſe.

CHAP. III.

Of the Fracture of the Clavicle.

THE Patient is to be ſet in a Chair, and his Arm is to be drawn backward, whilſt an Aſſiſtant thruſts his Shoulder forward: in the mean time the Operator ſets the Bones again in their Place, by thruſting the Protuberances, and drawing out the ſunk Bone.

Or elſe a Tennis-Ball may be taken, and put under the Patient's Arm-pit, whoſe Elbow is then to be preſt againſt his Ribs, whilſt the Surgeon reduceth the Fracture.

Otherwiſe the Patient may be laid upon his Back, putting a Convex Body under both his Shoulders, as a Bowl or large wooden Diſh; and then the Shoulders may be preſs'd, to raiſe up the two Ends of the Bones, which the Surgeon muſt take care to reduce.

The Dreſſing and Bandage.

The Cavities which are above and below the Clavicle, are to be filled with Bolſters trimmed with Paſte-boards; another is to be alſo laid upon the Bone, almoſt of the ſame Figure with the Clavicle, and a large Bolſter, to cover the three others: this Dreſſing is to be ſecured with the Bandage, called the *Capeline* or Head-bandage, provided the Fracture be in the middle of the Clavicle. A Band being taken about ſix Ells long, and four Fingers thick, roll'd in two Balls, is apply'd in the middle to the Fracture; one of its Heads or Ends is let down upon the Breaſt, whilſt the other is paſſed behind the Back, below the Arm-hole, oppoſite to the indiſpos'd Arm-hole, and above the Breaſt, to be carry'd over the other End of the Band, which is rais'd up, to make a Roller upon the Fracture. The other end is paſs'd under

der the indiſpos'd Arm-pit, and upon the Band that made the Roller, which is elevated by making a third Roller, upon the Clavicle: theſe Circumvolutions round about the Body are continu'd, as alſo theſe Edgings upon the Clavicle, till it be intirely cover'd. Some Circumvolutions are alſo made upon the upper Part of the Arm, near its Head: the Space that lies between the Edgings and the Circumvolutions of the Arm, which bears the Name of *Geranium* or Storks-bill, is likewiſe cover'd with ſome Circumvolutions, and the Band is ſtaid by making Circumvolutions quite round about the Body.

If the Fracture were near the Head of the *Humerus* or Arm-bone, a ſort of Bandage might be prepared, which is called *Spica*, with a Band roll'd with one Ball five Ells long, and four Fingers broad; one end of this Band is paſſed under the Arm-pit oppoſite to the indiſpoſed one behind the Back: the other end is convey'd under the indiſpoſed Arm-pit; the Figure of the Letter X is made on the Shoulder; the Band is return'd below the other Shoulder behind; it is brought back again before, to form a ſecond X upon the Fracture; three or four more are made upon the Fracture; two Circumvolutions are made in the upper part of the *Humerus*, which conſtitute a Triangle, called *Geranium*; this Triangle is cover'd with Edgings, and the Band is terminated round about the Breaſt.

CHAP. IV.

Remarks, with a new Machine of Monſieur Arnaud's *for the Fracture of the* Clavicle.

TO reſtore the fractur'd Clavicle, let a Servant draw back both the Shoulders with both his Hands, putting his two Thumbs one againſt the other on the Spine, and let him manage the Shoulders with his Fingers, keeping the Patient in this Poſture, to give the Operator an Oportunity to reſtore the fractur'd Clavicle. After the ends of the Bone are put together, the Servant muſt continue to keep them in the ſame Situation, whilſt the Dreſſings are applied; for if he ſhould let go his Hold

Hold before that was done, they would fall out of their Places.

You muſt not lay any Bolſter or Paſte-board along the Clavicle, as is commonly done, becauſe the Bandage preſſing on it would cauſe it to fall out of its place again; but theſe muſt be laid above and underneath the Clavicles in the Cavities which are there, and lay a Roll above and under the Clavicle, near its Articulation to the Shoulder, taking care that that below be longer than that above; this is done by folding back divers times the Compreſs. Theſe Compreſſes muſt riſe higher than the Clavicle, which is done by multiplying them, that the Band which keeps on the Dreſſing, may not thruſt the Cavicle down. Next lay two Bolſters croſs-wiſe, and cover all with a large oval Paſte-board cut after the faſhion of a Heart at each end, that ſo it may fit the Neck and Shoulder better, and keep all on with the Bandage call'd *Spica*, beginning by applying the End of it before on the Breaſt. And ſince the chief buſineſs is to keep the Shoulders back, that the Bones may not fall out of their places, you may make divers Turns of the Band to the middle of the Arm, beginning from before to behind; for if you ſhould begin the contrary way, the Arm would be drawn forwards, which is contrary to the Intention of the Operator, who muſt always draw the Shoulders back. The Arm therefore muſt be drawn back, and the Band wound ſeveral times round the Body, to keep it in this Situation.

But as theſe Turns hinder the free Circulation of the Blood, and by conſequence obſtruct the Nouriſhment of the Arm, and are very troubleſome to it, I ſhall deſcribe a Machine of Mr. *Arnaud*'s Invention, which anſwers all theſe Intentions without any of thoſe Inconveniences.

A Machine of Monſ. Arnaud's *Invention for a Fracture of the Clavicle.*

This Machine is a Croſs or Steel T, whoſe Branches are about two Inches broad, and cover'd with ſome proper Stuff. The upright or long part of the Croſs goes from the top of the Spine, beginning between the two Shoulders, and ends at the bottom. The Tranſverſe muſt be

be faſtened to the top of the Upright, ſo that it is rather a T, than a Croſs, and paſs a-croſs over both Shoulders. At the end of each Tranſverſe there muſt be faſtened a Plate of Iron as broad as the Hand, which muſt be made like a Spoon, and hollow'd ſo as exactly and commodiouſly to embrace the Shoulder before, to draw the Shoulders back. This ſort of Spoon muſt be raiſed a little round the Edges, and cover'd with ſome proper Stuff, that it may not hurt the Patient's Shoulders. This Spoon muſt contract it ſelf as it goes backwards, making a ſort of a Cuff. This Cuff is faſtened behind to the Extremity of the Tranſverſe, with a Screw. The Tail of one of theſe Spoons muſt open and have a Hinge: for when one is apply'd to one Shoulder, the other could not be apply'd to the other Shoulder without ſuch a Deviſe. There muſt be at the Extremity of the hinged Spoon, that is, at the foremoſt and broadeſt end, a long ſteel Hook, which muſt go under the Patient's Arm-pit, and be faſtened with a Strap behind to the Extremity of the Tranſverſe of the Croſs. You muſt put a Leather Strap at the bottom of the Croſs to tie it round the Loins, and faſten it before on the Belly with a Buckle; for by the help of this you muſt draw the Shoulders back more or leſs, as it is ty'd more or leſs ſtreight about the Body, and the bottom of the Croſs plac'd higher or lower on the Back.

If this Machine do not draw the Shoulders backward enough, a large Bolſter muſt be laid along the Spine of the Back, ſo as not to reach to the bottom of the Croſs, which by this means will be made to lie cloſer upon the lower part of the Back with a Strap; and ſo the Shoulders may be drawn farther backward, becauſe the force of this Machine exerts it ſelf the whole length of the Spine.

The Deſcription of this Machine is ſufficient to direct a Work-man to make it.

CHAP.

CHAP. V.

Of the Fracture of the Scapula *or Shoulder-Blade.*

THE *Acromion* is uſually fractur'd; but it may be known that the middle of the *Omoplata* is broken, by a Numbneſs which is felt in the whole Arm. Whereupon the Surgeon, after having examin'd the Place of the Fracture, thruſts back the Prominences of the Bones into their Place; and if any Splints happen to prick the Part, he makes an Inciſion to take them out, or to cut off their Points.

The Dreſſing and Bandage.

A Bolſter is laid upon the *Scapula*, as alſo a large piece of Paſte-board of the bigneſs and figure of this Bone, and a ſort of Bandage is prepar'd, known by the Name of *the Star*, with a Band roll'd with one Head four Ells long, and as many Fingers broad. This Band is convey'd behind the Back, one of its Ends under the Arm-hole oppoſite to the indiſpoſed one; but the other end is paſs'd under the Shoulder, and afterward above it, to make an X in the middle of the Back; then paſſing under the other Arm-hole, it is brought up to the Shoulder to be let down, to form a ſecond X upon the middle of the Back. Theſe Turns are continu'd in making Rollers, till the *Scapulæ* are all cover'd. Circumvolutions are made round the upper part of the *Humerus*, as in the *Spica*; and the Bandage is finiſh'd by Circumvolutions round about the Breaſt.

CHAP.

CHAP. VI.

Of the Fracture of the Ribs.

WHEN a Rib is broken, one of the ends puſheth into the Breaſt, ſometimes on the outſide; and ſometimes the Ends lie againſt each other. In order to reduce it, the Patient being laid upon the ſound ſide, a Plaiſter of Maſtick is apply'd to the Fracture, and it is drawn out violently; ſo that ſometimes this Attraction brings back the Bone, which is advanc'd into the Breaſt: but the ſureſt way is to make an Inciſion therein, to raiſe it up with the Finger.

If the Rib appear without, the Patient is to be ſet in a Chair, and muſt bend his Body on the ſide oppoſite to the Fracture, holding his Breath ſtrongly, in order to dilate the Breaſt, whilſt the Surgeon thruſts the Rib into its place.

The Dreſſing and Bandage.

A Bolſter is to be apply'd to the Fracture, with two little pieces of Paſte-board laid in form of a St. *Andrew*'s Croſs; and another Bolſter upon the whole Dreſſing, on which is alſo laid a large ſquare Paſte-board cover'd with a Bolſter. The Bandage is made with a Napkin folded into three Folds, which is put round the Breaſt, being ſtich'd to, and ſupported by the Scapulary; which is a Band ſix Fingers broad, perforated in the middle, to let in the Head. The two ends of the Scapulary are faſtened before and behind to the Napkin.

CHAP. VII.

Of the Fracture of the Sternum, *or Breaſt-Bone.*

TO reduce this Fracture, the Patient muſt be laid upon his Back, with a Convex Body underneath; and both his Shoulders preſs'd with ſome weight, to puſh 'em back-

backward, and to raiſe up the *Sternum*, which is ſunk down; or elſe an Inciſion may be made upon the Bone, to diſcover it; and then a *Terebra* is to be apply'd thereto very gently, in order to raiſe it up into its place.

The Dreſſing and Bandage.

A Bolſter and Paſte-board are to be laid upon the *Sternum*, almoſt of the ſame Figure with the Part: and the Bandage is to be prepared with a Napkin ſupported with a Scapulary. Or elſe the Bandage called *Quadriga* may be made with a band roll'd with two Heads, five Ells long, and four Fingers broad. The Application of this Band is begun under the Arm-pit, the Figure of X is form'd upon the Shoulder; the Band is carry'd downward with the two Balls, one before, and the other behind; it is paſſed under the other Arm-hole, the Heads are croſs'd upon the Shoulder, and it is brought down backward and forward, forming an X before and behind. Afterward the Band is rolled about the Breaſt leaving Edgings; theſe Rollers are continu'd till the band is wound out, and it is ſtay'd by a Circumvolution round the Breaſt.

CHAP. VIII.

Of the Fracture of the Vertebræ.

THE Proceſſes of the *Vertebræ* are commonly broken, and their Bodies but ſeldom. It may be known, that the Body of the *Vertebræ* of the Neck is fractur'd, by the Palſie of the Arm, accompanied with the loſs of Feeling; and that the Body of the *Vertebræ* of the Back is ſo, by the ſuppreſſion of Urine, and by the Palſie of the *Sphincter* of the *Anus*, ſo that the Excrements cannot be any longer retain'd. If theſe Symptoms appear, it may well be conceived, that the Marrow is compreſs'd and prick'd with the Points: for the removing of which, it is neceſſary to make an Inciſion upon the Body of the *Vertebra* in the fractur'd Place.

If the Spinal Proceſſes are only fractur'd, theſe Accidents will not happen; only ſome Pain will be felt. To reduce

reduce 'em, the Patient is to be laid upon his Belly, and the Surgeon muſt uſe his utmoſt Endeavours to raiſe up the Bones again, and to put them in their natural Situation.

The Dreſſing and Bandage.

If a Spinal Proceſs were fractur'd, it would be requiſite to apply to each ſide of it a ſmall long Bolſter, which is to be cover'd with a Paſte-board of the ſame Figure with the Bolſter; another Bolſter lying upon each Paſte-board. The Bandage is to be made with a Napkin ſuſtain'd by its Scapulary: or elſe the *Quadriga* may be uſed, according to the manner we have already deſcrib'd in the Fracture of the *Sternum*.

CHAP. IX.

Of the Fracture of the Os Sacrum.

IT is reduc'd as the other *Vertebræ*: but its Dreſſing and Bandage are made with the T perforated at the *Anus*, or elſe with the ⊓ or double T. It is made with a Band two Fingers broad, and long enough to encompaſs the Body above the Hips: to the middle of this Band is faſten'd another Band of the ſame breadth, and of a ſufficient length to paſs over the Dreſſing of the *Os Sacrum*, as alſo between the Thighs, to be join'd in the fore part to the firſt Cincture. The double T is made by faſtening two Bands, at a Finger's breadth diſtance one from another, to the Band which ought to be roll'd about the Body: and this ſort of Bandage is to be ſupported with a Scapulary.

CHAP. X.

Of the Fracture of the Coccyx *or Rump-Bone.*

THIS Bone is uſually broken by falls, and ſinks into the inſide: ſo that to reduce it, the Fore-finger of one

Hand is to be put into the *Anus* or Fundament as far as the Fracture, to thruſt it back again into its place, whilſt the other Hand ſettleth it on the out-ſide.

The Dreſſing and Bandage.

Theſe are the ſame with thoſe in the Fracture of the *Os Sacrum*: but the Patient muſt be obliged to lie on one ſide, and to ſit in a perforated Chair, when he hath a mind to riſe.

If the *Os Innominatum* be broken, the *Spica* is to be uſed after it hath been reduced, of which Bandage we have given an Account in the Fracture of the Clavicle.

CHAP. XI.

Of the Fracture of the Humerus *or Arm-Bone.*

TO ſet this Bone, a ſtrong Extenſion is to be made, if the two Ends croſs one another; to which purpoſe, the Patient is to be plac'd on a little Stool or Seat, and ſupported by a Servant, two other Aſſiſtants being employ'd to draw, one at the upper-part, and the other at the lower, above the Elbow, and not beneath it. In the mean time the Operator reduceth the two Bones, by cloſing 'em on all ſides with the Palms of his Hands, and afterward prepareth

The Dreſſing and Bandage.

It is neceſſary at firſt to lay round the Fracture a Bolſter ſteep'd in ſome proper Liquor, as Claret, or *Oxycratum*; then three ſeveral Bands are to be taken, three or four Fingers broad, and an Ell and a half long. The firſt of theſe is to be laid upon the Fracture, round which are made three very ſtreight Circumvolutions; then it is to be carry'd up with ſmall Rollers to the top of the Arm, and ſtay'd round the Body. The ſecond Band being applyd

ply'd to the Fracture, on the ſide oppoſite to the firſt, two Circumvolutions are to be made upon the Fracture, ſo that the ſame Band may be brought down along the whole length of the Arm, making divers Rollers, and at laſt ſtay'd above the Elbow, which it muſt not cover. Afterward four longitudinal Bolſters muſt be laid upon the Fracture round about the Arm, which are to be kept cloſe with a third Band; it being of no great Importance whether the Application of this third Band be begun at the top or at the bottom; but it may be ſtay'd round the Body, or elſe beneath the Elbow. The Arm ought alſo to be encompaſſed with two thick pieces of Paſte-board made round at the ends, and of the length of the Arm; but they muſt not croſs one another. Theſe Paſte-boards are to be faſten'd with three Ribbands, and the Arm is to be put into a Scarf made with a large Napkin, which is to be firſt apply'd in the middle under the Arm-pit; the Arm muſt be put therein, and the four ends raiſed up, and faſtened upon the oppoſite Shoulder; but the Hand muſt lie higher than the Elbow.

CHAP. XII.

Of the Fracture of the Bones of the Cubit.

IF both the Bones of the Cubit be broken, a ſtronger Extenſion is to be made than if only one of them were ſo hurt; to which purpoſe a Servant muſt graſp the Arm below the Elbow with both his Hands, and another muſt hold it above the Wriſt, whilſt the Surgeon ſets the Bones with the Palms of both his Hands, till no unevenneſs be any longer felt in the Part.

The Dreſſing and Bandage

Are the ſame with thoſe of the Fracture of the Arm; but the Bands which are carry'd upward are to be ſtayed above the Elbow. If the Patient be deſirous to keep his Bed, it is convenient that his Arm be laid upon a

Pillow, the Elbow lying ſomething higher than the Hand.

CHAP. XIII.

Of the Fracture of the Carpus *or Wriſt-Bone.*

IF the Bones of the *Carpus*, or thoſe of the *Metacarpus* be fractur'd, a Servant muſt hold the Arm above the Wriſt, and another the Fingers; whilſt the Operator ſets the Bones in their place, ſo as no unevenneſs may appear in the Part.

The Dreſſing and Bandage.

The Fracture of the Wriſt is to be bound with a Band roll'd in a Ball, being ſix Ells long, and two Fingers broad; three Circumvolutions are to be made upon the Wriſt; the Band is to be paſs'd over the Hand, between the Thumb and the Fore-Finger, making the Figure of X upon the Thumb. Then after having made divers Edgings on the *Carpus*, a Bolſter is to be applied, with a little piece of Paſteboard of the ſame ſhape with the Wriſt: ſeveral Edgings are to be made upon it, which muſt extend to the top of the Cubit, to ſtay the Band above it; and the Arm is to be put into a Scarf.

CHAP. XIV.

Of the Fracture of the Bone of the Metacarpus.

TWO Servants are to hold the Hand, after the ſame manner as in the ſetting of the *Carpus* or Wriſt-bone, whilſt the Surgeon reduceth the broken Bone, by fixing it in its natural Situation.

The

The Dreſſing and Bandage

Are made with a Band roll'd up in a Ball, five Ells long, and two Fingers broad: this Band being faſtened to the Wriſt, with a Circumvolution, is to be laid on the *Metacarpus*, between the Thumb and the Fore-finger, and the Figure of X is to be made upon the Hand. Then the forming of Rollers and X's is to be continued till the *Metacarpus* be cover'd; a Bolſter and Paſte-board are to be laid upon the ſame; as alſo one in the Hand, of the Shape of the Part: the inſide of the Hand is to be furniſhed; and the whole is to be cover'd, as before, with Rollers, which are continu'd till above the Elbow, where the Band is ſtay'd.

CHAP. XV.

Of the Fracture of the Fingers.

A Light Extenſion is to be made in the Fingers to reduce them, and a ſmall Dreſſing is to beprepar'd for every Finger, almoſt like that of the Arm. The Fingers are to be ſomewhat bent, and the inſide of the Hand is to be trimm'd with a Bolſter, to retain 'em in this Situation. The Bolſter is alſo to be ſtay'd with a Band, and the Arm to be put into a Scarf.

CHAP. XVI.

Of the Fracture of the Thigh-bone.

IF the Thigh-bone be broken near its Head, the Fracture is very difficult to be diſcover'd; but if the Bones paſs one over another, it may be ſoon known, becauſe the hurt Leg will be ſhorter than the other. Therefore a very great Extenſion is to be made; and if the Hands are not

ſufficient for that purpoſe, recourſe may be had to Straps and Engines. In the mean time the Operator is to lay his Thumbs upon the fractur'd Bone, to thruſt it back into its place, and afterward apply

The Dreſſing and Bandage.

The Cavity of the Thigh is to be fill'd with a thick Bolſter, of the length of its bending; and three Bands four Fingers broad are to be provided, the firſt being three Ells long, and the ſecond four, as well as the third. Then three Circumvolutions are to be made upon the Fracture with the firſt Band, carrying it up with ſmall Rollers, and is to be ſtay'd round the Body. The ſecond Band is to make two Circumvolutions upon the Fracture, and is to be brought down with ſmall Rollers, which are terminated above the Knee; or elſe they may be continu'd all along the Leg; it is alſo to be paſs'd under the Foot, and to be drawn up again upon the Leg. Then a Bolſter is to be applied to the lower part of the Thigh, being thicker at bottom than at top, to render the Thigh every where even; and four longitudinal Bolſters are to be added, on which are laid Splints of the ſame length and breadth, which are to be wrapt up with a ſingle Bolſter. The third Band is to be roll'd upon theſe Splints, beginning at the bottom, and aſcending with Rollers. Then two large Paſte-boards are to be uſed, which may embrace the whole Dreſſing, without croſſing one another, being faſtened with three Ribbands. Afterward a Sole is to be put under the Foot, and the Heel to be ſupported with a ſmall Roll, the Thigh and Leg being laid in Junks, the inner of which is to extend to the Groin, and the outer-moſt is to be ſomewhat longer: two little Cuſhions are alſo to be laid on each ſide below the Knee, and two others below the Ankles, to fill up the Cavities. Theſe Cuſhions or large Bolſters are to lie between the Junks, and a thick Bolſter is to be laid upon the Leg all along its length, as alſo one upon the Thigh. The Junks are to be bound with three Ribbands for the Leg, and as many for the Thigh; the Knots being ty'd without, and on the ſide.

CHAP. XVII.

A Remark of Monſ. Arnaud *on the Fracture of the Thigh.*

THE external Junk muſt go quite under the Arm-pit, and be wrapped in two large Napkins folded lengthways, one of which muſt paſs over the Belly, and the other over the Breaſt.

To hinder the Patient from turning croſs and ſliding down towards the Feet of the Bed, you muſt plant a Stake into the Floor, underneath the Bed, and paſs it through the Matting and Bed-clothes, ſo that it may be between the Patient's Legs. This ought to be as thick as the ſmall of the Arm, and cover'd with ſome Stuff or other, that it may not hurt the Patient. And for greater Security, let it be ty'd with an equal Girth to the Patient's Thigh above the Knee; and let each Branch or Tail of the Girth paſs on each ſide the Knee, exactly on the middle, and over two Pullies (faſtened at the end of the Bed's Feet) and at the end of them let there be two Weights ſuſpended to draw the Thigh, and keep it in a ſtreight Poſture. The Thigh muſt be wrapt round with a Bolſter in the Place where the Girth is, that it may not hurt it.

If you cannot or would not have this Weight, or Stake, you muſt make uſe of Muffles, faſtening one to the upper, and the other to the lower Part of the Thigh, and the end of the former to the Bed's Head, and the latter to the Bed's Feet.

Obſerve that theſe Muffles draw more or leſs ſtrongly, and are more eaſy or troubleſome, as they conſiſt of a greater or leſſer Number of Fullies: and therefore that faſtened to the lower end of the Thigh muſt not be ſo complicate as the upper one; that is, muſt have fewer Pullies, becauſe it is this which muſt be looſened, when the Patient complains they draw too hard; the Muffles which have feweſt pullies being the moſt eaſy to be looſened.

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I adviſe young Surgeons not to make uſe of this Method, it being too difficult, and even inconvenient for the Patient.

CHAP. XVIII.

Reflections, and a New Machine of Monſ. Arnaud, *for curing the* Rotula, *fractured tranſverſely.*

WHEN a Piece of the *Rotula* fractur'd tranſverſely is drawn up by the Attraction of the Extenſors of the Leg, it ought to be thruſt with the Thumbs into its ordinary place.

In order to this, the Patient muſt not be laid down, as is moſt commonly done, but ſhou'd ſit in a Chair, and have his Leg extended; becauſe in this Poſture the Operator has more Strength to thruſt the *Rotula* down with his Thumbs.

If there were nothing farther required for the Cure, but to keep the *Rotula* in its Poſture, a common Bandage would be ſufficient; but ſince this is never to be undone till the Cure be compleated, for fear the *Rotula* ſhould be drawn out of its place by the Muſcles; and ſince there is no part ſtands in more need of being embrocated than the great Tendons of the Hams in that part of the Semi-Cylinder, Monſieur *Arnaud* has invented a new Machine to effect this without danger of the *Rotula*'s flying up.

This Machine is made with a great and very thin Plate of Iron about a Foot long, bent round ſo as to form a hollow half Cylinder. It pretty well reſembles half a Lanthorn without its Head, or which is cut ſquare at the end. You muſt make along the Part of this Cylinder, which is to be placed under the Ham, a long Window like that of Horn Lanthorns. This muſt be ſhut with a Plate of Iron a little larger than the Aperture, becauſe it muſt not enter within, but muſt be faſtened upon the Aperture, with little hinges on one ſide, and a hook on the other, that it may be opened when one will.

All

All along both Edges of this Semi-Cylinder there muſt be a riſing four Inches broad. Lay the Patient's Leg in the middle of this Machine, which goes half a Foot above, and as much below the Ham. Lay at this Machine which is above the Patient's Knee, a thin Iron Plate more than ſix Inches broad, which being ſhap'd handſomely round, muſt be applied on the Thigh, and one of its ends touch the upper edge of the *Rotula* to hinder it from riſing.

This Plate on each ſide muſt have an Edge or Riſing, which is to be applied on the Edges of the Semi-Cylinder, that is under the Ham, and it muſt be kept on with a Screw. Lay another like Plate below the Knee, and let it juſt touch the inferiour Edge of the *Rotula*, and faſten it like the other with Screws to the Cylinder, to ſupport the *Rotula* below the Knee. Theſe Plates muſt come cloſe to the Edges of the *Rotula*, and not paſs over it, but the *Rotula* muſt be between theſe two Plates, and kept there from ſtirring. Theſe Plates muſt be lined on the Inſide with Bolſters, for the better keeping down the *Rotula*. The large Bolſter laid on the Knee muſt have one end of it ingag'd under the Plate which lies above the Knee, but muſt not be ingag'd under the Plate that lies below the Knee, that ſo it may be taken up, when the Part is to be dreſs'd, without taking off the Plates that ſupport the *Rotula*.

Let two Bolſters be likewiſe laid within the half-Cylinder, which is under the Ham; but ſo that they only touch one another at the Ends in the middle of the Ham, and have only one of their Ends ingag'd between the half-Cylinder and the Leg; that ſo, when the Plate under the Ham is taken off, the Bolſter, may fall down of themſelves at one end, and open a way to embrocate the Tendons. When that is done, put the Plate again under the Ham: thus, by the means of this Machine, the *Rotula* may be dreſſed whilſt it is kept down. The Deſcription of this Machine is ſufficient to inſtruct any ingenious Workman to make one.

Obſerve, that when the *Rotula* is broken into divers pieces, you muſt preſs them down, and put each into its proper Place: for otherwiſe they would agglutinate each other in a wrong Poſition, and prove very inconvenient to the Patient, after his Recovery, whenever he ſhould kneel down.

When

When theſe pieces of the *Rotula* are reduced into their places, you muſt keep them there by two good bits of Leather, four Inches broad laid Salterwiſe over the *Rotula*, faſtening each end on the Plates of Iron, with Hooks made on purpoſe.

CHAP. XIX.

Of the Fracture of the Knee-Pan.

THE Knee-Pan is cleft or broken in divers pieces in its length, and croſs-wiſe. If it be broken croſs-wiſe obliquely, the two pieces fly out one from another: and on this Occaſion, a ſtrong Extenſion is to be made; whilſt the Surgeon at the ſame time thruſts back again the upper part of the Knee-Pan into its Place.

If the Knee-Pan be fractur'd in its length, no Extenſion muſt be made, becauſe the pieces of the Bones remain in their place.

The Dreſſing and Bandage.

If the Knee-Pan be broken croſs-wiſe, a Band is to be provided three Ells long, and two Fingers broad, which may be roll'd with one or two Heads. The Application is to be begun above the Knee-Pan; the Figure of X is to be made on the Ham, and a Circumvolution under the Knee: then the Band is to be continually carry'd up and down, till the Knee-Pan be intirely cover'd.

If the Knee-pan be fractur'd in its length, that is to ſay, from the top to the bottom, the Uniting Band muſt be uſed, being two or three Ells long, and two Fingers broad, perforated in the middle. It is to be at firſt applied under the Knee, and one of the Balls is to be paſſed through the Hole: it muſt alſo be bound hard; and divers Circumvolutions are to be made upon the Knee-Pan, to cover it intirely.

CHAP. XX.

Of the Fracture of the Leg.

IF the *Tibia* be only broken, it puſhes into the Inſide; but if both Bones be fractur'd, they are ſometimes ſeparated on both ſides, or elſe they paſs one upon another; and in this caſe the Leg is ſhorter than it ought to be: If the *Perone* onely be broken, it puſhes to the outſide.

If one Bone only be fractur'd, ſo ſtrong an Extenſion is not requiſite, as when they are both broken: and the drawing is only on one ſide; whereas the drawing ought to be equal on both ſides, when both Bones are concerned. Thus while the Aſſiſtants are imploy'd in making the Extenſion, the Surgeon performs the Operation by laying the Ends of the Bones exactly againſt one another; and they are known to be reduc'd, when the great Toe remains in its natural Situation.

The Dreſſing and Bandage.

A ſimple Bolſter dipt in a convenient Liquor is at firſt applied; and three Bands three Fingers broad are prepar'd, the firſt being two Ells long, the ſecond three, and the third three and an half. Three very ſtreight Circumvolutions are to be made upon the Fracture; the Band is alſo to be carried up with Rollers, and ſtay'd above the Knee. The Application of the ſecond Band is to be begun upon the Fracture with two Circumvolutions; it is to be brought down with Edgings to paſs under the Foot, afterward carried up again, and ſtay'd where it is terminated. The Cavity of the Leg is to be fill'd with a Bolſter thicker at the bottom than at the top: and then are to be laid on the four longitudinal Bolſters, two Fingers broad, and as long as the Leg; to which are to be applied the Splints of a pliable and thin Wood: theſe are wrapt up with a ſimple Bolſter, and ſtrengthen'd with the third Band, which is applied indifferently, either at the top or bottom, after a manner contrary to the two former; ſo that it is carried up, or elſe down with Edgings, and ſtay'd

at

at its end. The whole is to be encompaſs'd with large Paſte-boards made round at the ends, which are not to croſs one another, but muſt be ſtreighter at the bottom than the top, and are to be ty'd with three Rib-bands or pieces of Tape, beginning at the Middle; ſo that the Knots be ty'd on the outſide. Afterward the Leg is to be put into the Junks, and the Heel is to be ſupported with a Linen Roll, to which are faſtened two Ribbands that are tyed upon the Junks. Theſe Rolls are made with a ſmall piece of Cloth, which is doubled and rolled up at the Ends, in which is contain'd ſome Straw, and a little Stick in the middle, to make them ſtiff. The Foot is ſupported with a Paſte-board or Wooden Sole, trimm'd with a Bolſter, or ſmall Quilt ſew'd over it. Divers Strings are alſo faſtened to the middle of the Sides of the Sole or Pump, which are croſs'd upon the Leg to be join'd to the Junks; and another is fixed at the End of the Sole, which is ty'd to a Ribband that binds the middle of the Junk. Theſe Junks are likewiſe faſten'd with three Ribbands, beginning with that in the middle, the Knots being without, and trimm'd with four Bolſters, that is to ſay, two on each ſide, to fill up the Cavities that are below the Knee, and above the Ankle. Laſtly, the Leg is to be placed ſomewhat high, and a Cradle to be laid over it to keep off the Bed-clothes; the Junks muſt go over the Knee and the Foot.

The Dreſſing of complicated Fractures

Of the Arms, Legs, and Thighs, is made with a Bandage having eighteen Tails or Ends. In order to make which, a Linen Cloth is to be taken, of the length of the Part, and broad enough to encompaſs it: it is to be folded into three Leaves, and cut in three places on each ſide, leaving the middle plain; ſo that eighteen Tails or ſmall Bands are form'd, every one of which will be four Fingers broad, the upper Tails being a little ſhorter than the lower. This Band of eighteen Tails is to be laid upon the Junks, and a Bolſter is to be applied to it four Fingers broad, as long as the Junks. The Leg is laid upon this Bolſter, and it keeps the *Pus* from falling on the Bandage.

When

When the Wound hath been dreſs'd, the Fracture muſt preſently be wrapp'd round with one of the Tails, which ought to croſs one another, a little ſlopeing. Then after the Leg hath been bound with the firſt Tails, two Longitudinal Bolſters are to be applied to the ſide of it; and the other Tails are to be raiſed, with all the reſt of the Dreſſing, which hath been deſcribed in the ſimple Fracture.

CHAP. XXI.

Excellent and Judicious Remarks of Monſieur Arnaud *on Fractures of the Leg and of the Arm.*

MOnſieur *Arnaud* has ſhew'd, that the Roll, put under the Heel to ſupport it, is inſignificant, becauſe it compreſſes the Tendons; but that the beſt way is to uſe a Roll of ſoft Linen-Cloth rolled up ſoftly, which muſt be put under the Leg between the Heel and the Dreſſing, that is under the Tendon of *Achilles*.

He ſhew'd likewiſe, that if after ſome time the Patient be tired with this Roll, it may be taken off, and two falſe Junks, made without a Stick or Straw, put under the Heel, with a Band about four Inches broad, rolled with two Heads, which muſt ſupport the two Ankles, while the Heel reſts on the ſimple Band which is between the two Heads; upon which heads it does not bear at all, reſting ſolely upon the Linen-Cloth between the two Rolls. If after ſome time the Patient be fatigu'd, you may take this off, and put on the former, ſhifting thus alternatively for his Relief. If you chuſe rather to make uſe of the Roll, you muſt have a longiſh Bolſter or Cuſhion, to fill up the Hollowneſs of the Leg on each ſide of the Tendon of *Achilles*.

He ſhew'd that the great Junks in which the Legs are laid, ought not to go above four Inches higher than the Knee. For if they ſhould go to the upper end of the Thigh, that being thicker than the Leg, this could not be ſupported by the Junks; and if to ſupport it, the

the Junks were brought close to the Leg, they would recede from the Thigh.

He shew'd farther, that a Pillow ought to be laid under the Ham, for fear of a Distortion, and that this Pillow should be thickest in the Hollow of the Ham.

He recommended very much the keeping the Foot streight with a Sole. Tho' this Posture be not natural to the Foot, since in sleeping it is bent, and is tired by being kept streight. The reason why this is done, is to keep the Tendon of *Achilles* from contracting it-self, which would oblige the Patient to walk on the Tip of his Foot.

The Paste-boards laid round the Leg must not be ingag'd under the Bands, because, if the Patient should complain he is too closely bound, he cannot be relieved but by undoing the Bandage, which may do considerable Mischief. Whereas if the Paste-boards are ty'd with two or three Ribbands only, they need only be slacken'd to give ease to the Part.

The Bones of the Cubit or of the Leg must by no means be pres's'd by the Bandage; because the two Bones of the Leg, or those of the Cubit, being removed one from the other, instead of being kept end to end, they will be made to fall into the Interstice between the Bones. The Arm both within and without must be covered with longitudinal Bolsters, which should rise higher than the Bones, that the Bandage may rest on the Bolsters, and not pres's on the Bones.

If there is but one Bone in the Arm broken, there is no need the above-mentioned Bolsters should rise above the whole Bone, but only above that which is broken; and the Band may rest upon that which is not broken, a longitudinal Bolster being laid upon it to support the Band.

CHAP.

CHAP. XXII.

Of the Fracture of the Bones of the Foot.

THE Reduction of the Bones of the Foot is perform'd after the ſame manner as that of the bones of the Hand.

The Dreſſing and Bandage

Are made with a Band roll'd with two Heads, being three Ells long, and two Fingers broad. The Application of it is begun with a Circumvolution above the Ankles; it is paſs'd on the Foot, and in like manner makes a Circumvolution round it: afterward the ſame Band is croſs'd over the *Metatarſus*, upon which are made ſome Folds in form of a *Rhombus* or Diamond; as alſo on the Toes, and it is ſtay'd above the Ankle-Bone; or elſe it is carry'd up along the Leg, to be ſtay'd above the Knee. This Bandage ſerves for all Fractures of the Bones of the Foot; and is called the *Sandal*.

A TREATISE OF THE OPERATIONS Which are perform'd in LUXATIONS.

CHAP. I.

Of the Luxation of the Noſe.

THE Bones of the Noſe may be ſeparated from that of the Forehead by a Fall, or ſome violent Blow: and the Surgeon, in order to ſet 'em, at firſt lays his Thumb upon the Root of the Noſe; then he introduceth a little flat Stick trimmed with Cotton into the Noſtrils, and by the means thereof puts back the Bones into their place.

The Dreſſing and Bandage

Are the ſame with thoſe that have been already deſcribed in the Fracture of the Bones of the Noſe.

CHAP.

CHAP. II.

Of the Luxation of the lower Jaw.

THE Jaw may be luxated, either on both ſides, or only on one. When the Diſlocation happens on both ſides, the Jaw hangs over the *Sternum* or Breaſt-bone, and the Spittle runs abundantly out of the Mouth. To reduce it, the Patient muſt ſit down, and his Head is to be ſupported by a Servant; then the Operator or Surgeon having wrapt up his two Thumbs, puts them in the Mouth upon the Molar Teeth, his other Fingers lying under the Jaw, which is to be drawn down by raiſing it up, having before ſet two ſmall wooden Wedges upon the two Molar Teeth on both ſides of the Jaw, leſt the Surgeon's Fingers ſhould be hurt, as the Bone is returning to its place.

If the Luxation be forward, a Band or Strap is to be put under the Chin, an Aſſiſtant having his Knees upon the Patient's Shoulders, where he is to draw the Strap upward to facilitate the Extenſion, which the Surgeon makes with his Hands, at the ſame time thruſting the Bone back again into its place.

When the Jaw is luxated onely on one ſide, the Chin ſtands a-croſs, and the diſlocated ſide is depreſs'd, a ſmall Cavity being perceived in it, and a riſing on the other ſide; ſo that the Mouth cannot be ſhut cloſe, but remains ſomewhat open, the lower Teeth appear farther out than the upper; and the Canine or Dog-Teeth lie under the Inciſive. This Luxation is reduc'd by giving a blow with the Hand upon the luxated Bone, which is generally ſufficient to cauſe it to re-enter into its natural Place.

The Dreſſing and Bandage

Are altogether the ſame with thoſe uſed in the Fracture of the Bones of the lower Jaw.

CHAP. III.

Of the Luxation of the Clavicle.

THE *Clavicle* is oftener looſen'd from the *Acromion* than from the *Sternum*; when it hath left the former, the Arm cannot be lifted up; the *Acromion* makes a Prominence, and the Clavicle deſcends downward, a Cavity appearing in its place. To reduce this Luxation, the Patient muſt be laid down, and ſome Convex Body put between his Shoulders; both which are to be preſs'd backward, to raiſe up the Clavicle. Afterward he is to be ſet in a Chair, that his Arm may be drawn backward, whilſt the Surgeon is imploy'd in preſſing the Clavicle and *Acromion*, to join them together.

The Dreſſing and Bandage

Are the ſame with thoſe that we have already ſhewn, in treating of the Fracture of the Clavicle.

CHAP. IV.

Of the Luxation of the Vertebræ.

IN the Luxation of the *Vertebræ* of the Neck, the Head ſtands to one ſide, and the Face is ſwell'd and livid, with a difficulty of Reſpiration.

To reduce this Diſlocation, the Patient is to be ſet upon a low Seat, an Aſſiſtant leaning on his Shoulders, to keep his Body ſteady, whilſt the Surgeon or Operator draws his Head upward, and turns is from one ſide to another: Then if the Accidents or Symptoms ceaſe, the Cure is perform'd; ſo that Fomentations may be applied to the Part; and the Patient being laid in his Bed, muſt take care to avoid moving his Head.

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When the *Vertebræ* of the Back or Loins are luxated on the inside, a sinking of the Bone is soon perceiv'd: whereupon the Patient being laid on his Belly, the Extension is made with Napkins pass'd under the Arm-pits, and upon the *Os Ileum*. Whilst a strong Extension is made, the Surgeon makes some Motions in the Spine, endeavouring to draw back the *Vertebræ*. If that be not sufficient, an Incision is to be made upon the *Apophysis Spinosa* of the *Vertebræ*; so that after having laid open this Process of the Bone, it may be drawn outward with a pair of *Forceps*. Then the Wound is to be dress'd with Pledgits, a Plaister, and a Napkin, which must not be bound too close for fear of pushing back the Spine.

When the *Vertebra* is luxated on the outside, a Prominence appears; so that to reduce this Dislocation, the Extension is to be made as before, the Patient lying in like manner upon his Belly; but in order to push back the *Vertebra*, two little Sticks, trimmed with Linen-Cloth, are to be prepar'd, and laid along the two sides of the Spine of the *Vertebra*; yet these Sticks ought to be thick enough to remain more elevated than the Spinal Process, and a large wooden Roller is to be often roll'd upon them, which by its turning backward and forward, may thrust the *Vertebræ* inward; so that when all the *Vertebræ* are of an equal height, the Reduction is finish'd. If the *Vertebræ* are luxated on the side, the same Extensions are to be made, and the Prominence is to be push'd, to re-establish the *Vertebra* in is place.

The Dressing and Bandage.

The Dressing is prepared by laying two thin Plates of Lead on each side of the Spinous Process of the *Vertebra*, to maintain it in its Place, and a long Bolster over them. The proper Bandage is the *Quadriga*, which hath been before described in treating of the Fractures of the Breast-bones.

A Machine of M. Arnaud *for the reduction of the* Vertebræ *when luxated outwardly.*

In order to reduce the *Vertebræ* when luxated outwardly, *M. Arnaud* makes uſe of two pieces of Wood, not rouhd as they uſed to be made, but ſquare, almoſt as long as the whole Spine, two inches high, and not quite ſo broad as high. He makes a ſquare Notch at the ends of thoſe two pieces, to let in two flat pieces, which are to be faſtened with Pins, that this whole little Machine may be ſtable. A Roller is paſſed along the whole length of the two firſt pieces, to force in the luxated *Vertebræ*, in the uſual manner.

CHAP. V.

Of the Luxation of the Coccyx *or Rump-bone.*

IF the *Coccyx* be ſunk on the inſide, it is to be raiſed with the Fore-finger of the Right hand put into the *Anus*; and if the Luxation be on the outſide, it may be gently thruſt back again. An Account of its proper Dreſſing and Bandage hath already been given in the Fracture of the *Coccyx*.

CHAP. VI.

Of the Bunch.

THE *Bunch* is nothing elſe but an exterior Luxation of the *Vertebræ*, and for the Cure thereof it will be requiſite to keep Emollients for a long time upon the *Vertebræ*, to looſen the Ligaments; and likewiſe to wear Iron-Bodice, which in compreſſing the *Vertebræ* by little and little may perhaps drive them back into their natural Place.

CHAP.

CHAP. VII.

Of the Luxation of the Ribs.

THE Ribs are luxated either on the outside, or on the inside. If they be dislocated on the inside, a Cavity is perceived near the *Vertebræ*, the Patient drawing his Breath with Pain, and not being able to bend his Body.

When the Luxation is on the outside, and happens in the upper Ribs, the Patient's Hands are to be hoisted upon the top of a Door, to raise up the Ribs, whilst the Surgeon presseth the Prominence of the Rib to restore it to its place.

When the lower Ribs are luxated, the Patient must be obliged to stoop, laying his Hands upon his Knees, and the Prominence of the Bone is to be thrust back.

If a Rib be luxated on the inside, an Incision is to be made to draw it outward with the Fingers.

The Dressing and Bandage

Are the same with those that are used in the Fracture of the Ribs.

CHAP. VIII.

Of the Sinking of the Xiphoides *or Sword-like Cartilage.*

TO raise up the *Xiphoid* Cartilage, it must be fomented before for some time with Oil of Turpentine, or other Fomentations made with Aromaticks: the Patient is to be laid upon his Back, with a Convex Body underneath; and the Shoulders and sides of the Breast are to be press'd to raise up the Cartilage. When this Operation is not sufficient, dry Cupping-Glasses are usually applied till the

Part be elevated; and a ſtrengthening Plaiſter is afterward laid upon it.

CHAP. IX.

Of the Luxation of the Humerus *or Arm-Bone.*

THE Head of the *Humerus* generally falls under the Arm-Pit, ſo that the luxated Arm becomes longer than the other. The *Acromion* appears pointed on the outſide; the Elbow is turn'd from the Ribs, and cannot be mov'd without great Pain. To reduce this Bone, the Patient is to be ſet upon a low Seat, or elſe on the Ground, whilſt ſome Perſon ſupports his Body with a Napkin. In the mean time the Surgeon muſt lay hold on the upper part of the *Humerus*, a Servant kneeling behind him, who is to hold the Patient's Arm above the Elbow, which is to paſs between the Surgeon's Legs, and is to be drawn down by the Aſſiſtant as much as is poſſible, whilſt the Surgeon in like manner draws the Arm, to remove the head of the Bone out of the place where it was ſtopt, and to puſh it back into its place. The Bone ſometimes makes a noiſe in re-entring its Cavity.

Or elſe the Patient's Arm may be laid upon the Shoulder of a taller Man than himſelf, who is ſtrongly to draw the luxated Arm upon the fore-part of his Breaſt; during which time the Operator muſt puſh the Head of the *Humerus*, and thruſt it into its Cavity.

Otherwiſe the Patient may lie on the Ground, a Tennis-Ball being put under his Arm-pit, which a Servant muſt draw ſtrongly with a Handkerchief paſs'd under the Shoulder, whilſt another Aſſiſtant ſtands behind the Patient, to thruſt down the Shoulder with his Foot; at the ſame time the Surgeon ſitting between the Patient's Legs muſt puſh ſtrongly with his Heel the Ball that lies under the Arm-hole.

Or elſe a thick Batroon or Leaver may be laid on the Shoulders of two Men, after a Tennis-Ball hath been nail'd on the middle of it; otherwiſe a Bunch may be made therein, and cover'd with Linen-Cloth; two wooden

Pins

Pins being alſo fix'd on each ſide of the Ball: then the Patient's Arm-pit is to be ſet between thoſe two Pins, and upon the Ball, where he is to remain hanging, whilſt his Arm is pull'd down by main force. The ſame thing may be done by laying the Patient's Arm-pit upon a Door, or elſe upon the Round of a Ladder.

The Dreſſing and Bandage.

A little Ball of Linen is to be laid under the Arm-pit, and underneath a Bolſter with four Heads, which are croſs'd upon the Shoulder; as alſo a Bolſter under the ſound Arm-hole, that it may not be gall'd by the Bandage *Spica*, the Nature of which we have ſhewn in treating of the Fracture of the Clavicle.

CHAP. X.

Of the Luxation of the Elbow.

WHEN the Elbow is luxated on the inſide, the Arm is bent, and the Hand is turned outward: but in the Luxation on the outſide, the Arm is ſhortened. If the Luxation be lateral, a Prominence appears in the diſlocated, and a Cavity in the oppoſite Part.

To reduce the internal Luxation, the *Humerus* and *Cubitus* are drawn, and at the ſame time the Surgeon bends the Elbow, by carrying the Hand towards the Shoulder; or elſe a Tennis-Ball may be laid in the fold of the Elbow, and the Arm be drawn towards the Shoulder.

For the external Luxation, the Extenſion is to be made, whilſt the Surgeon thruſts back the Elbow into its place: or elſe a round Stick may be taken, trimmed with Linen-Cloth, with which the Bone is to be puſh'd back into its place during the Extenſion. This Stick may be alſo uſed in the reducing of the Internal Luxation.

For the lateral Luxations, the Extenſion may be made in like manner; the Surgeon at the ſame time thruſting back the Bone into its natural Situation.

The Bandage

Is made with a Band five Ells long, and two Fingers broad, roll'd in a Ball. The Application of it is begun with a Circumvolution at the lower part of the *Humerus*, whence it is paſſed over the bending of the Arm; a Circumvolution is alſo form'd in the upper part of the Cubit, and an X on its bending. Afterward the Edgings are continued upon the Cubit, and the X's in the inſide of the Arm, till the Cubit be intirely cover'd: The Band is likewiſe carry'd up to the top of the Arm with Edgings, and ſtay'd round about the Body. The Patient muſt be obliged to keep his Bed, or elſe his Arm may be put in a Scarf, after the ſame manner as in the Fracture of the Arm.

CHAP. XI.

Of the Luxation of the Wriſt.

IF the Luxation be internal, the Hand is turn'd back to the outſide: ſo that for the Reduction thereof, it will be requiſite to cauſe the back of the Hand to be laid upon a Table, and the Extenſion to be made by drawing the Cubit and Hand, whilſt the Surgeon takes care to preſs the Prominence.

If the Luxation be External, the Hand is bended on the inſide: ſo that to reduce it, the inſide of the Hand is to be laid upon a Table, and the Surgeon is to preſs it during the Extenſion.

If the Luxation be on the ſides, the Hand is turn'd to one ſide; ſo that the Extenſion muſt be made, and the Hand turn'd on the ſide oppoſite to the Luxation. But the Fingers are uſually drawn one after another, to the end that the Tendons may be ſet again in their Place.

The eight Bones of the *Carpus* may be in like manner diſlocated both on the inſide and without: and to ſet them right, the Hand is to be laid upon a Table, and the Extenſion

tenſion is to be made, ſo as to preſs the Protuberances on the inſide, if the Luxation be Internal, and on the outſide if it be External.

The Bandage

Is made with a Band ſix Ells long, and two Fingers broad; ſo that three Circumvolutions may be made upon the Luxation; as alſo divers Edgings in paſſing through the inſide of the Hand between the Thumb and the Fore-finger, and in forming the Figure of X upon the Thumb, after having made many Edgings upon the Wriſt. Two pieces of Paſte-board are alſo to be laid on the ſides of the Wriſt, which are bound with the ſame Band; and the Hand is to be kept open with a Linen-Ball, to keep the Fingers in a middle Situation. Then the Band is to be paſs'd above, to ſtrengthen it, and carry'd up with Edgings the whole length of the Cubit, to be ſtay'd above the Elbow.

CHAP. XII.

Of the Luxation of the Fingers.

IF the Fingers be luxated, it is neceſſary to make an Extenſion to reduce them, and afterward to uſe the following

Bandage.

If the Luxation be in the firſt Articulation or Joint, the Bandage *Spica* is to be applied, with a Band roll'd with one Head, an Ell long, and an Inch broad: It is begun with Circumvolutions round about the Wriſt, and brought over the Luxation in paſſing between the Fingers. Theſe Circumvolutions are alſo continued to form a *Spica* upon the Luxation, and the Band is ſtay'd at the Wriſt.

If

If all the firſt *Phalanges* were diſlocated, it would be requiſite to make as many upon every *Phalanx*, and with the ſame Band. This ſort of Bandage is call'd the *Demi-Gantlet.*

CHAP. XIII.

Of the Luxation of the Thigh.

THE Luxation which moſt commonly happens in this Part, is the internal: ſo that a Protuberance appears on the Hole of the *Os Pubis*; the indiſpoſed Leg is longer than the other, and the Knee and Foot turn'd outward; neither can the Thigh be any longer bended, or drawn near the other.

If the Luxation be external, the Leg becomes ſhorter than the other, the Knee and Foot turning inward, and the Heel to the outſide.

When the Luxation is on the fore-part, a Tumour ariſeth in the Groin, ſo that the Patient cannot draw his Thigh toward the other, nor bend the Leg; his Body reſting only upon the Heel.

If the Luxation be poſterior, a Tumour is felt in the Buttocks with great Pain, and the Leg is ſhorter than it ought to be: There alſo appears a ſinking in the Groin, the Leg is lifted off from the Ground, and the hurt Perſon is apt to fall backward.

To reduce the internal Luxation, the Patient is to be laid with his Back upon a Table, to which is fixed a thick wooden Pin, about a Foot long, which is to be ſet between his Thighs, to detain his Body when his Legs are drawn down; then a Strap is to be paſs'd above the Joint of the Thigh, to draw the *Iſchion* upward, and the Thigh is to be drawn down with another Strap faſtened above the Knee. In the mean while the Surgeon thruſts the Thigh upwards, to cauſe its Head to re-enter its Cavity, the Straps being ſomewhat looſen'd in the time of the Reduction to facilitate the Operation.

To

To reduce the external Luxation, the Patient is to be laid upon his Belly; and the drawing to be performed after the ſame manner as we have even now ſhewn, whilſt the Thigh is thruſt from the outſide inward, to cauſe the Bone to re-enter its Cavity.

In reducing the anterior Luxation, the hurt Perſon is to be laid upon the ſide oppoſite to the Luxation, and Extenſions are to be made, by drawing both upward and downward, as before: then the Head of the Bone is to be forc'd, by the means of a Ball thruſt ſtrongly with the Knee, in moving the luxated Leg toward the other.

The poſterior Luxation is thus reduc'd: the Patient being laid upon his Belly, the double Extenſion is to be made, and his Knee drawn outward, to ſet the Bone in its place. After the Operation hath been perform'd, a Bolſter is to be applied, ſteep'd in ſpirituous Medicaments; and the Bandage called *Spica*, of which we have given an Account in treating of the Luxation of the Shoulder.

CHAP. XIV.

Of the Luxation of the Knee.

WHEN the *Tibia* is luxated behind, its Prominences are in the Cavity of the Ham, and the Leg flies off, or is bended. If the ſame *Tibia* be diſlocated on the Side, a kind of Tumour appears in the luxated Side, and a Sinking in the oppoſite. But if the *Condylus* of the *Tibia* is luxated in the inſide, the Leg turns outward; and if it be in the outſide, it turns inward.

The Poſterior Luxation is reduc'd by obliging the Patient to lie upon his Belly, whilſt the Surgeon during the Extenſions bends the Leg, in drawing the Heel toward the top of the Thigh.

If the *Tibia* be luxated on the ſide, the uſual Extenſions are to be made, and the Bone is to be puſh'd with the Knee.

If

If the Luxation were in the fore-part, it wou'd be requisite to lay the Patient upon his Back, to make the Extensions, by drawing the Thigh and Leg, and to press the protuberant Parts.

The Dressing and Bandage.

Is prepar'd with a Band three Ells long, and two Fingers broad, roll'd with two Balls. A Circumvolution being at first made above the Knee, an X must be made underneath, and a Circumvolution below it; then the Band is carry'd up again over the Knee, making Edgings and X's underneath, till the Knee be intirely cover'd.

CHAP. XV.

Of the Luxation of the Rotula, *or Knee-Pan.*

THE Knee-Pan is luxated by starting upwards: and to reduce it, the Patient's Leg must be held streight, whilst it is thrust back into its Place with the Thumbs, which are to be put alternately the one before the other, 'till it recovers its place. Then he must be oblig'd to keep his Bed; and the same Bandage is to be apply'd with that which hath been describ'd for the Luxation of the Knee.

If the *Perone* or *Fibula* be remov'd from the *Tibia*, the sides of the Foot are to be press'd, to draw it back again: and it may be kept close with the Bandage, which is appropriated to the Fractures of the *Tarsus*.

The *Astragalus* may be also luxated in the fore-part: the Operator ought to thrust it back into its Place, and to make use of the Bandage which we have prepar'd for the Fracture of the Foot.

The *Calcaneum* sometimes flies off from the *Astragalus* both in the Inside and without; and the Bones of the *Tarsus*, *Metatarsus*, and Toes are likewise apt to be luxated. But a little Circumspection onely is requisite to reduce all these Dislocations.

CHAP.

CHAP. XVI.

A Diſcourſe on the Rickets, deliver'd by Monſieur Arnaud, *in the Amphitheatre of St.* Coſmus.

M. *Arnaud* ſhew'd in the Amphitheatre of St. *Coſmus*, on the Bones of Ricketty Children, which are always larger below than above, that they almoſt ever break in the Places where they bend, and agglutinate again when they grow, and ſtrengthen: which he prov'd by expoſing them broken to the View of the Company, or ſhewing the circular Lines in the Places where they knit again together. He ſhew'd that theſe Bones always warp to that ſide to which they naturally bend, as toward the lower end of the Spine outwardly, towards the anteriour part of the Bone of the Thigh, *&c.* or if they are naturally ſtreight, as the Bones of the Leg or Arm, they are bowed on the ſide oppoſite to the Contraction of the ſtrongeſt Muſcles. The Arm-bone, for inſtance, is bowed to the outſide, becauſe the ſtrongeſt Muſcles lying on the inſide, draw its Extremities together as the String of a Bow.

When very young Children have their Bones thus bow'd, Splints may do well enough to bring them right; but when they come to three or four Years old, you muſt make uſe of a Boot of Tin.

This muſt go but half round the Leg. The hinder part muſt be open to put the Leg into the Machine, which muſt be cloſed behind with three Straps faſten'd at convenient Diſtances.

This Boot is ſomewhat like a Stirrup-ſtocking, having two Elongations on each ſide which are pretty narrow. The Stirrup which paſſes under the Child's Foot is a Leather, which is faſten'd to each ſide of the Boot; and to the upper End of this a Knee-piece muſt be lac'd. This Knee-piece is made of Tin, and muſt have a Hole in the middle for the Knee to paſs thro': it muſt be accommodated ſo as to follow the Motion of the Knee, and give way for its Flexion and Extenſion when the Child walks.

Within this there muſt be another ſmall Boot of Tin like the former. This muſt be lined on the Inſide with Fuſtian,

Fuſtian, and have a Hole in the Place where the Curvature of the Leg is, to prevent compreſſing it, and to give it way to ſupport it ſelf on the External Boot, and its Lining.

This Deſcription is ſufficient to give any Work-man an Idea of this Machine.

CHAP. XVII.

Of the Delivery of Women.

IF the Child is not ready for the Birth, it is dangerous to deliver the Woman. The Signs of an approaching Travail, are, about the term of nine Months, great Pains in the Loins and Kidneys, which by intervals are anſwer'd by others at the bottom of the Belly, repeated Gripes, a quick, full, and high Pulſe, an inflamed Countenance, a ſwelling in the privy Parts, a Vomiting, a Trembling, and a Heat thro' the whole Body: the Humidities which flow from the Womb, are ſometimes tinged, and the Paſſage of its internal Orifice open. It is not neceſſary, that all theſe Signs concurr: but the beſt way to know, that a Woman is indiſpos'd by the approach of her Travail, is, to put one's Finger into the Orifice of the *Vagina*; and if one perceives, that the Membranes which contain the Waters, preſs downwards, and are hard, it may be concluded, that ſhe will ſoon be brought to bed; but if, on the contrary, they are flaggy and ſoft, ſhe will not be deliver'd ſo ſoon.

In order to deliver a Woman, it is proper to give her ſome ſtrong Clyſters, before the Child is at the Paſſage, that the *Rectum* may be emptied of thoſe things which might obſtruct it in its way. And that the Woman may uſe her utmoſt endeavours, ſhe muſt walk about her Chamber without tiring her ſelf; and ſhe muſt take ſome Jelly-Broth, or a new-laid Egg, and ever now and then ſome ſpoonfuls of common Wine. Her privy Parts muſt be anointed with ſome emollient Oil: the Waters muſt be left to come down of themſelves, that the Paſſage may not remain dry. The Bed muſt be made with ſeveral Quilts, upon which muſt be laid Sheets folded

in

in many doubles, to ſecure the Woman from any inconvenience from the flowing of the Waters and of the Blood. The Woman is to be placed upon her Back, in a middle Poſture between ſitting and lying; ſhe muſt open her Thighs wide, with her Heels drawn a little towards her Buttocks, under which a ſmall Pillow muſt be laid, that the *Os Coccygis* may yield backward: her Feet muſt reſt upon ſomething which may ſupport them; and ſhe muſt hold ſome body by the Hands, that ſhe may the better ſtrain, and endeavour to expell the Burthen. The Belly muſt not be preſſed by the Hands, as is uſually done by Midwives. When the Waters are come down, the Surgeon muſt put his Finger into the internal Mouth of the Womb, to examine whether the Head of the Child comes foremoſt. Having anointed his Hands, as ſoon as the Pains grow ſtrong, he muſt put the Ends of his Fingers into the entrance of the Womb, to dilate it, by ſeparating his Fingers one from another. When the Head begins to appear, he muſt ſhove back the ſides of the Womb towards the hinder part thereof; and when it is come forward as far as the Ears, he muſt take it with both his Hands by the ſides, and at the firſt great Pain draw the Child, not directly forward, but moving it this way, and that way, with the Face downward; taking great care, that the Navel-ſtring be not wound about the Child, becauſe otherwiſe he would be apt to break it, and pull the Womb with too much violence. When the Shoulders appear, he muſt ſlide his Fingers under the Arm-pits, and draw the Child forth, laying it on one ſide, leſt the Waters ſhould ſuffocate it. The Navel-ſtring muſt be tied with a Thread four or five double, about two inches from the Child's Belly, and muſt be cut about the ſame diſtance from the Place where it is tied. The End which remains, is to be tied with a String to the Woman's Thigh: for the *Placenta* muſt not be drawn away as ſoon as the Child is born; becauſe if there ſhould happen to be another Child, the *Placenta* belonging to it would be torn away with that of the former, which would cauſe the Death of the latter. The Surgeon therefore muſt thruſt his Hand into the Womb, to diſcover whether there is yet a ſecond Child, which may be known by the Membranes being filled with Water; which muſt be broken, in order to bring

forth the ſecond Child in the manner above-mentioned, and to examine whether there is not a third.

In order to deliver the Woman of the *Placenta*, the Surgeon muſt with his left Hand take hold of the Navel-ſtring with a dry Linen-Cloth, and likewiſe with his right, holding it above his left, which muſt be very near the privy Parts: then he muſt pull very gently, not taking hold of the Membranes with the Navel-ſtring, and muſt deſire the Woman to ſtop her Mouth and Noſe, and to puſh her Breath ſtrongly downwards. If this is not ſufficient, he muſt deſire another Woman to lay the Palm of her Hand upon her Belly, and to ſtroke it downwards gently. If the After-Burthen be not intire, he muſt put his Hand into the Womb to draw away the reſt. If the Navel-ſtring is broken without having drawn out the After-Burthen, he muſt anoint his Hand, pare his Nails, and put it into the Womb, to draw away the After-Burthen, if it does not ſtick to the Womb. If it does, he muſt with the ends of his Fingers, put between the Womb and the After-Burthen, ſeparate them gently, without ſcratching the Womb, and then he may draw the After-Burthen away. If the Womb is not open enough to admit the Hand, two or three Fingers only muſt be introduced, with which he muſt draw out the *Placenta* as well as he can. If this method do not ſucceed, emollient Injections muſt be made with Decoctions of Mallows, Pellitory of the Wall, Lin-ſeed and Oils of Lillies, or a piece of new Butter, to ſuppurate and looſen the After-Burthen. She muſt then take pretty ſtrong Clyſters; ſhe muſt be blooded once or twice in the Foot or in the Arm, to avoid the Fever; and if ſhe be not feveriſh, ſhe may drink ſtrong Veal or Chicken-Broth, with the Juice of an Orange in it, and good Wine mixed with Water.

When the Waters have pierced the Membranes, and there is ſome doubt whether the Child be alive, becauſe the Mother has not felt it move a long time, the Surgeon having anointed his Hand, muſt put it into the Womb, and take hold of the Navel-ſtring near the Child's Belly, to feel whether the Arteries beat; or elſe he muſt put the tip of his Finger into the Child's Mouth, to feel the Motion of its Tongue. This may be known likewiſe by the Stench proceeding from the Womb.

Womb. If the Child fall continually on the ſide upon which the Woman lies, if ſhe have frequent Convulſions, if the Navel-ſtring, or the After-Burthen has been come away a good while, if ſhe have a feeble, dejected, pale Countenance, a ſtinking Breath, if her Breaſts have been dried up, and her Belly has ſunk for a long time, theſe are all ſigns that the Child is dead: but it is not neceſſary that all theſe ſhould happen at once.

If the Child preſent only one Foot, it is neceſſary to find out the other, and to take hold of them with both Hands above the Ankles, one againſt the other, and to draw them with a dry Linen-Cloth. When the Knees are come out, the Surgeon muſt take hold of the Thighs above the Knees, and draw till the Breaſt appears; after which, he muſt lay the Arms down cloſe by the ſides of the Body, and draw it quite out.

If the Child's Face and Belly lie upward, it muſt be turned, in turning the Feet gradually as it is drawn forth. To this purpoſe, the Surgeon muſt ſlide one of his Hands open'd flat to the *Pubis* of the Child, holding the two Feet with his other Hand, to turn the Body at the ſame time, till the Breaſt and Face are downward. If the Head ſtop in the Paſſage, ſome body muſt take hold of both the Thighs above the Knees, or of both the Feet, and pull gently, while the Surgeon puts one or two Fingers of his left Hand into the Child's Mouth, to diſingage the Chin, and with his right takes hold of the hinder part of its Neck, drawing with both his Hands.

If the Head is ſeparated from the Body, and remains in the Womb, the Surgeon muſt put two of his Fingers into the Mouth, and his Thumb under the Chin, to draw out the Head by the Jaw.

If the Jaw is ſeparated from the Head, he muſt put his left Hand into the Womb to hold the Head, and with his right ſlide a Hook cloſe by his left, for fear of hurting the Womb; and having faſten'd the Hook in the Head, he muſt draw the Child out, guiding it with his left Hand.

If the Head is come forth, and the Body remains behind, he muſt ſlide one or two Fingers of each Hand under the Arm-pits, and draw out the Child.

If the Child put forth one or both Hands with the Head, the Hands muſt be put back as far as poſſible,

that the Head may come out alone, and the Delivery muſt be finiſhed in the natural way, with the Face downwards.

If the Child put forth one or both Hands alone, they muſt be put back into the Womb, and the Feet muſt be ſought after, and drawn out, with the Face downward. This is a general Rule, that the Child muſt be drawn with the Face downward.

If the Child is certainly dead, and the Arm is put out too far, and is too big, it muſt be cut off, or elſe twiſted round two or three times, to ſeparate it from the Body.

If the Child puts forth the Feet and the Hands together, the latter only muſt be put back, the Surgeon ſliding his Hands to the Child's Head, which he muſt ſhove back ſoftly towards the upper part of the Womb, and then draw the Child by the Feet.

If the Child preſent its Knees, he muſt put them back, and take hold of the two Feet, and draw.

In ſhort, whatever part the Child preſents, except it be the Feet or the Head, it muſt be put back, if poſſible; and if the Head do not preſent it-ſelf, the Feet muſt always be drawn out firſt, and always with the Face downwards.

If there be ſeveral Children in the Womb, great care muſt be taken, that one draws the Members of the ſame Body: which may be known by taking hold of two Feet, and ſlideing the other Hand up to the Groins, to feel whether the two Legs belong to the ſame Body.

If the Navel-ſtring appear before the Child, it muſt be put back with the tips of the Fingers into the Womb, behind the Child's Head, if that preſents it-ſelf at the Paſſage.

If the Navel-ſtring falls down at every Pain, one muſt deliver the Woman, drawing the Child by the Feet, even tho' it preſents its Head firſt, provided it be not advanced too far in the Paſſage: and let the Child be always baptized as ſoon as born, when the Navel-ſtring comes firſt.

If the After-Burthen appears firſt, which is eaſily known by the quantity of Blood, and by the ſoftneſs of the Body which appears, it muſt be put back; and the Child muſt be ſpeedily drawn out by the Feet, the Membranes being before broken with the Fingers.

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If the After-Burthen be almoſt intirely come out, and the Membranes be torn, the *Placenta* muſt be preſently drawn out, before the Child, whoſe Life is in danger; and then the Child muſt be drawn forth, even before the Navel-ſtring is cut.

If the loſs of Blood be very conſiderable, or the Woman have great Convulſions, ſhe muſt be delivered without delay, provided the Womb be open: for if it be not, it is proper onely to give her pretty ſtrong Clyſters, to provoke Sneezing, and to moiſten the part with emollient Fomentations.

If the Child is dead in the Womb, ſharp Clyſters muſt be given, to excite Strainings; and the Child muſt be be drawn forth by the Feet, which one muſt endeavour to find: for it is inconſiſtent with reputation, to tear and mangle the Child with Inſtruments, when it may be drawn out otherwiſe: the World is not very favorable to Phyſicians and Surgeons; and Mid-wives are malicious.

When the Woman is delivered, a ſoft Linen-cloth doubled ſeveral times muſt be put before the Entance of the Womb, to keep out the cold Air, which might cauſe fatal accidents. The Cloths which have received the Flood, muſt be changed, the Bed muſt be kept very warm, the Woman muſt be laid with her Head and Body ſomewhat high, an anodyne Cataplaſm muſt be laid upon the entrance of the Womb to aſſuage the pains. This Cataplaſm is to be made with Oil of ſweet Almonds, and new-laid Eggs, boiled together upon Embers. Afterwards, a Decoction muſt be made with Barley, Lin-ſeed, Chervil, Marſh-mallows, and Violets, to foment the part with the warm Liquor three or four times a day for ſeveral days.

If the Belly is affected with pains, it muſt be anointed with Oil of Almonds: and muſt not be rendered at all coſtive during the firſt fifteen days.

If the Woman is deſirous to give her Child ſuck, her Boſom may kept warm, if ſome Embrocations are made upon it with Oil and a little Vinegar, leſt the Blood ſhould flow to the Breaſts in too plentiful a manner.

See the Ceſarean Operation.

A TREATISE OF *Medicinal Compositions.* Necessary for a SURGEON.

CHAP. I.

Of BALSAMS.

The Balsam of Arcæus.

TAKE two Pounds of the Suet of a He-Goat, *Venice*-Turpentine and Gum *Elemi*, a Pound and a half of each; and of Hog's-Lard one Pound. After the Gum *Elemi*, being cut into small Pieces, hath been melted over a very gentle Fire, add to it the Turpentine, Goats-Suet and Swines-Grease: and when all these Ingredients are well dissolv'd, strain the Liquor through a new Linen-Cloth, to separate the Scum and Dregs from it; then let the whole Mass cool, and the Balsam is made.

This

This Balſam ſerves to incarnate and conſolidate all ſorts of Wounds and Ulcers: It is likewiſe uſed in Fractures and Diſlocations of the Bones; as alſo to cure the Contuſions and Wounds of the Nerves.

The Balſam of Spain.

Take pure Wheat, the Roots of *Valerian* and *Carduus Benedictus*, of each one Ounce, and beat them well in a Mortar with a Pint of white Wine; ſtrain the whole Compoſition into an Earthen Veſſel glaz'd, having a narrow Mouth; ſtop up the Veſſel, and ſet it upon hot Embers during twenty four Hours: then add ſix Ounces of St. *John's*-Wort; ſet the whole Maſs in *Balneo Mariæ*, till the Wine be conſum'd, and let it be ſtrain'd and ſqueez'd. Afterward add two Ounces of Frankincenſe well pulveriz'd, with eight Ounces of *Venice* Turpentine, mixing 'em together over a gentle Fire, and the Balſam will be made.

This is the Balſam which was always uſed by *Fabricius ab Aquapendente*, and is excellent for all kinds of Wounds, even for the Nervous, which (as it is avouch'd by ſome Perſons) may be cur'd by it within the ſpace of twenty four Hours. But the Wound muſt be at firſt waſh'd with good white Wine cold, and afterward anointed with this Balſam well heated. If the Wound be deep, it may be ſyringed with the ſame Balſam very hot, and the ſides of it anointed when drawn together. Then a Bolſter ſteep'd in the Balſam is to be apply'd to the Part, and upon that another Bolſter ſoak'd in the Lees of Wine; as alſo over this laſt another dry Bolſter.

The Green Balſam.

Take Linſeed Oil and that of Olives, of each one Pint; one Ounce of Oil of Bays; two Ounces of *Venice* Turpentine, half an Ounce of the diſtill'd Oil of Juniper-berries, three Drams of Verdegreaſe, two Drams of Succotrin Aloes, two Drams and a half of white Vitriol, and one of the Oil of Cloves.

Having made choice of the beſt Olive and Linſeed-Oil well purify'd and mingled together in a Skillet or Pan over a very gentle Fire, let the Turpentine and Oil of Bays

be incorporated in it; then having taken off the Pan from the Fire, and left the Liquor to be well cool'd, let it be intermix'd by little and little with the Verdegeaſe, the White Vitriol, and the Succotrin-Aloes beaten to fine Powder: Afterward the diſtill'd Oils of Cloves and Juniper-berries being added, and the whole Compoſition well mingled together, the Balſam will be intirely compounded according to Art.

This is the Balſam that hath been ſo much talk'd of at *Paris*, and which many Quack-Salvers, pretending to the Arts of Phyſick and Surgery, keep as a great Secret. Indeed it is very good for all ſorts of Wounds, whether they be made by the Sword, or other Iron Weapons, or by Gun-ſhot. But it would be requiſite at firſt to waſh the Wound with warm Wine, then to anoint it with this Balſam very hot, and to apply Bolſters that have been ſteeped in it, as alſo a large Bolſter over the other, dipt in ſome Styptick Liquor. This Balſam mundifies, incarnates, and cicatrizes Wounds; being likewiſe good againſt the bitings of venomous Beaſts, and fiſtulous and malignant Ulcers.

Samaritan *Balſam.*

Take an equal quantity of common Oil and good Wine, boil them together in a glaz'd Earthen Veſſel, till the Wine be wholely conſumed, and the Balſam will be made. I have mention'd this Balſam in particular, by reaſon of its ſimplicity, and in regard that it may be readily prepared at all times. It ſerves to mundifie and conſolidate ſimple Wounds, more eſpecially thoſe that are recent.

CHAP.

CHAP. II.

Of OINTMENTS.

Unguentum Matris.

TAKE new Butter, Lard, Mutton-Suet, white Wax, and Litharge of Gold, as much as you pleaſe; for inſtance, eight pounds of each, and of Oil of Olives ſixteen pounds.

Melt the Wax and the Fat with the Oil, pulverize the Litharge, and mingle it by little and little in the melted matter, keeping it ſtirred: then take it off the Fire, and ſtir it till the Ointment is cold.

It was the pious Mother S. *Tecla*, a Nun of the *Hôtel-Dieu* at *Paris*, who firſt made uſe of this Ointment in that Hoſpital, and publiſhed it to the World; and from her it took its Name.

It is excellent, applied on Whitlows, Furuncles, Impoſtumes, and on all Tumours which one would ripen, ſoften, ſuppurate, and break.

It is ſpecific for the Calloſities and Abſceſſes which riſe upon the Boſom of Nurſes, and of Women who have newly lain in. It ſoftens all ſorts of hard Swellings. When an Ulcer is dry, when it don't ſuppurate well, ſome of this Ointment muſt be laid upon it for ſome days, to bring it to Suppuration, and then it muſt be taken off, that the Mundificative may be applied.

When it has broken a Tumour, there is no occaſion to put a Tent into the Hole: it is ſufficient to lay a Plaiſter of this Ointment upon it, which may be continued till the Cure be perfected.

It would not be ſtrong enough for a *Bubo*: but when it is open, Doſils covered with a good black Suppurative muſt be put there-into, and over all a large Plaiſter of this Ointment.

It

It muſt be ſpred thick enough upon the Linen Rag, becauſe it melts eaſily, and the Linen might otherwiſe remain quite dry.

To preſerve it, it is neceſſary to wrap it up well, and to keep it very cloſe; for if it be left open to the Air, it becomes white, and loſes its virtue.

No great Quantity muſt be made at a time, unleſs it be for an Hoſpital.

Unguentum Styracis.

Take Oil of Walnuts, as much as you pleaſe, for example forty pounds, of Gum *Elemi* thirty pounds, of hard Roſin ſixty pounds, of yellow Wax thirty pounds; melt them all, keeping them ſtirred, and then ſtrain them.

This Ointment is often uſed with good ſucceſs in the *Hôtel-Dieu* at *Paris*.

It ſtops a Gangrene and Putrefaction, which it takes off.

Plaiſters made of this are laid upon the Spots and Swellings which riſe on the Bodies of Scorbutic Perſons.

Unguentum Althæa.

Take the Roots of *Althæa* or Marſh-Mallows, ſix Ounces; Linſeed, and Fenugreek ſeed, and Squills, of each four Ounces; of yellow Wax, one Pound; Colophony and Roſin, of each one Pound; *Venice*-Turpentine, *Galbanum*, and Gum *Hederæ* pulveriz'd, two Ounces of each. The Marſh-Mallow Roots being newly gather'd, are to be well waſh'd and ſlic'd, as well as the Squills. After they have been put into a Copper Pan or Skillet, tinn'd over on the inſide, together with the Linſeed and Fenugreek-ſeed, and a Gallon of fair Water pour'd upon them; the whole Maſs is to be macerated during twenty four Hours, over a very gentle Fire, ſtirring the Ingredients from time to time with a wooden *Spatula*. Then they are to be boil'd ſlowly, often reiterating the ſtirring till the Mucilages are ſufficiently thicken'd. Then, after having well ſqueez'd and ſtrain'd them through a ſtrong and very cloſe Cloth, and mingled them with the prepar'd Oil, they are to be boil'd together a-

gain

gain over a very gentle Fire, till the ſuperfluous Moiſture be wholly conſum'd. Afterward, having ſtrain'd the Oil again, the yellow Wax, Colophony, and Roſin cut into ſmall pieces, are to be melted in it; and if any Dregs appear in the bottom of the Pan, when the whole Maſs is diſſolv'd, it is to be ſtrain'd a new, or at leaſt the pure Liquor muſt be ſeparated from the groſs or impure by Inclination, whilſt it is as yet very hot. The Ointment muſt be ſtirr'd about with a wooden Peſtle; and when it begins to grow thick, you may add the Turpentine, the *Galbanum* purify'd and thicken'd, and the Gum *Hederæ* beaten to fine Powder, all which Ingredients were before incorporated together. Then the Ointment is to be continually ſtirr'd, till it be altogether grown cold.

This Ointment ſerves to moiſten, mollifie, and heat gently; it alſo diſſipates Ventoſities, it allays the Pains of the Side, and ſoftens Tumours, particularly the *Parotides*. It may be uſed either alone or with other Ointments or Oils.

The Mundificative Ointment of Smallage.

Take three handfuls of Smallage-Leaves, with Ground-Ivy, great Wormwood, great Centaury, Germander, Sage, St. *John*'s-wort, Plantain, Milfoil or Yarrow, Periwinkle, the greater Comfrey, the leſſer Comfrey, Betony, Honey-ſuckle, Fluellin, Vervein, Knot-Graſs, Adders-Tongue, and Burnet, of every one of theſe Plants two Handfuls; a Gallon of common Oil, white Pitch, Mutton-Suet, yellow Wax, and Turpentine, of each two Pounds.

Bruiſe all theſe Herbs in a Marble-Mortar; let the Wax, white Pitch, and Mutton-Suet be cut into pieces, as alſo the Turpentine be melted in the Oil in a Copper Pan tinn'd on the Inſide, over a moderate Fire; put the bruis'd Herbs in it, and cauſe the whole Maſs to ſimmer together very ſlowly, ſtirring it about from time to time with a wooden *Spatula*. As ſoon as it ſhall be perceiv'd that the Oil of the Herbs is almoſt quite conſum'd, the whole Compoſition is to be ſtrain'd and ſtrongly ſqueez'd. Then after having let the Ointment cool to draw off all the Dregs and Moiſture, melt it over a very gentle Fire;

and

and after having left it a little while to cool again and thicken, you may add thereto Myrrh, Aloes, *Florence*-Orris, and round Birth-wort pulveriz'd very fine. When all these Ingredients are by this means well incorporated, the Ointment will be brought to perfection.

This Ointment is of singular Use to cleanse Ulcers; as also to mundifie, cicatrize, and consolidate all sorts of Wounds.

The black or suppurative Ointment.

Take a Quart of common Oil, white and yellow Wax, Mutton-Suet that lies near the Kidneys, pure Rosin, Ship-Pitch, *Venice*-Turpentine, of each half a Pound; and of Mastick beaten to fine Powder, two Ounces; let all that is capable of being dissolv'd, be melted in the Oil; and add the Powder of Mastick to make an Ointment.

This Ointment searches and opens all sorts of Impostumes, as well as Carbuncles, and Pestilential and Venereal *Buboes*. The use of the same Ointment is also to be continu'd after the opening of the Abscesses, till their perfect Cure be compleated.

Unguentum Rosatum.

Take Boar's-Grease well purify'd, and often wash'd, and Red Roses newly pick'd, of each four Pounds, with the like quantity of White Roses.

The thin Membrane or Skin which lies upon the Boar's-Grease, being taken away, it is to be cut into small pieces, well wash'd in fair Water, and melted in a glaz'd Earthen-Pot over a very gentle Fire. The first Grease that is dissolv'd is to be strain'd through a Cloth, it must be well wash'd, and mixt with the same quantity of thick Rose-buds well bruised. Then the whole Mass is to be put into a glaz'd Earthen-Pot with a narrow Mouth, the Pot is to be well stopp'd, and set during six hours in Water, which is betwixt luke-warm and boiling hot. Afterward it is to be boil'd an hour, strain'd, and strongly squeez'd. In the mean while four Pounds of white Roses newly blown are to be taken, well bruised, and mingled

mingled with the former Compoſition, the Pot being cover'd, which is likewiſe ſet for the ſpace of ſix Hours in Water, between luke-warm and boiling hot; then the Liquor is to be ſtrain'd and ſtrongly ſqueez'd. Laſtly, after the Ointment hath been cool'd, and ſeparated from its *Fæces* or Dregs, it may be kept for uſe.

If it be deſir'd to give a Roſe-Colour to this Ointment, it would be requiſite a Quarter of an Hour before it be ſtrain'd the laſt time, to throw into it two or three Ounces of *Orkanet*, which is to be ſtirr'd into the Ointment. If it be thought fit to retain the White Colour, and to give it the ſmell of Roſes, it may be done with Damask-Roſes without *Orkanet*. If you are deſirous to give it the Conſiſtence of a Liniment, you may add Oil of ſweet Almonds to the quantity of a ſixth part of its Weight.

This Ointment is a very good Remedy againſt all manner of external Inflammmations, particularly again *Phlegmons*, *Eryſipelas*, and Tetters; as alſo againſt the Head-ach, and Hæmorrhoids or Piles.

Unguentum Album, aut de Ceruſſa.

Take three Pints of Oil of Roſes, nine Ounces of white Wax, one Pound of *Venice*-Ceruſe or white Lead, and a Dram and a half of Camphire.

The Ceruſe being pulveriz'd by rubbing the pieces upon the Cloth of a Hair-Sieve turn'd upſide down; the Powder is to be received on a Sheet of Paper laid underneath, and to be often waſh'd with Water in a great Earthen Pan, ſtirring it about with a wooden *Spatula*, and pouring the Water by Inclination, as ſoon as the Powder is ſunk to the bottom. When the Water of theſe Waſhings grows inſipid, the laſt Lotion is to be made with Roſe-water, leaving it for the ſpace of five or ſix Hours, which being expired, it is to be pour'd off by Inclination, and the Ceruſe muſt be dry'd in the Shade, covered with Paper. Then the white Wax broken, and prepar'd Oil is to be put into a glaz'd Earthen Pot, and the Pot into the boiling Bath. As ſoon as the Wax is melted, the Pot may be taken out of the Bath, and the diſſolv'd Liquor ſtirr'd with a Wooden Peſtle, till it begins to grow thick. Afterward let the pulveriz'd Ceruſe be infuſed, and the Ointment ſtirr'd about till it be almoſt cold. If

you ſhall think fit to add Camphire, let it be diſſolv'd in a little Oil, and incorporated with the Ointment when it is cold. The Whites of Eggs may be alſo well mixt with the Ointment, by ſtirring it about, to make an exact Union of the ſeveral Ingredients.

This Ointment is good for Burns, *Eryſipelas*, the Itch, many Diſtempers of the Skin; it allays the Itchings and Heats of Ulcers; it diſſipates the Chafings and Redneſs that happen in the Bodies of Infants; it is of great efficacy in the Healing of Contuſions, and it ſerves to conſolidate and cool light Wounds.

Unguentum Ægyptiacum.

Take eleven Ounces of Verdegreaſe, fourteen Ounces of ſtrong Vinegar, and twelve Ounces of good Honey.

Let the Verdegreaſe be put into a Copper-Pan or Skillet over a very gentle Fire; then bruiſe it with a wooden Peſtle; work it well in the Vinegar, and ſtrain the whole through a Hair Sieve. If a little Verdegreaſe remains on the Sieve, it is to be put again into the Skillet, bruiſed and beaten ſmall therein, as before, with a Portion of the ſame Vinegar, ſtraining it thro' the Sieve, till the unprofitable droſſy parts of the Copper be only left. Afterward, this Liquor is to be boil'd over a gentle Fire, with the Honey, ſtirring it about from time to time, till it hath acquired the Conſiſtence of a ſoftiſh Ointment, and a very red Colour.

This Ointment conſumes putrified Fleſh, and the Superfluities of Ulcers and Wounds.

Unguentum Baſilicon *or Royal Ointment.*

Take yellow Wax, Mutton-Suet, Roſin, Ship-pitch, and *Venice* Turpentine, one Pound of each; with five Pints of common Oil.

Cut the Wax, Suet, Roſin, and black Pitch into ſmall Pieces, and let them be melted together, with the Oil in a Copper-Pan, over a very moderate Fire; then after having ſtrain'd the Liquor through a thick Cloth, let it be incorporated with the Turpentine, and the Ointment will be made.

It promotes Suppuration, and cicatrizes Wounds, when the purulent Matter is drawn forth. It is ſometimes uſed alone to arm Pledgits; and ſometimes mix'd with the Yolks of Eggs, Turpentine, and other Ointments, or with Oils and Plaiſters.

A Cooling Cerate.

Take a Pint of Oil of Roſes, and three Ounces of white Wax.

Let the whole Compoſition be put into a glaz'd Earthen Pot, and the Pot ſet in *Balneo Mariæ*, till the Wax be well diſſolved in the Oil: then take the Veſſel out of the Bath, and ſtir the Ointment with a Wooden Peſtle till it be cooled; add two ounces of Water, and ſtir it about with the Peſtle, till it be imbib'd by the Cerate; let as much more Water be infuſed, and again the ſame Quantity, till the Cerate becomes very white, and hath been well ſoak'd with freſh Water. Afterward all the Water is to be pour'd off by Inclination, and ſeparated as much as is poſſible from the Cerate, which may then be kept for uſe; but ſome Surgeons cauſe an Ounce of Vinegar to be mixt with it.

This Cerate is uſually laid outwardly upon all Parts that ſtand in need of cooling, and aſſwages the Pains of the Hæmorrhoids or Piles. It is alſo good for Chaps, ſore Nipples, and other ill Accidents that happen in the Breaſt; and is uſed for Burns, either alone, or mixt with other Ointments. Whenſoever it is neceſſary to apply Deſiccatives and Aſtringents to any part, this Cerate may be mixt with *Unguentum de Ceruſſa.*

An Ointment for Burns.

Take a Pound of Boars Greaſe, two Pints of white Wine, the Leaves of the greater Sage, Ground and Wall-Ivy, Sweet-Marjoram, or the greater Houſe-Leek, of each two Handfuls.

Let the whole Maſs be boil'd over a gentle Fire, and be often ſtirred; and having afterward ſtrain'd and ſqueez'd it, let the Ointment ſo made be kept for uſe.

CHAP

CHAP. III.

Of PLAISTERS.

The Plaister of Diapalma.

TAKE three Pounds of prepar'd Litharge of Gold, three Pints of common Oil, two Pounds of Hog's-Lard, a Quart of the Decoction of Palm-Tree or Oak-Tops; four Ounces of Vitriol calcin'd till it become red, and diluted in the ſaid Decoction. Having bruis'd or cut very ſmall two handfuls of Palm-Tree or Oak-Tops; let them be boil'd ſlowly in three Quarts of Water till about half be conſum'd; and after the whole Maſs hath been well ſqueez'd, the ſtrain'd Decoction is to be preſerved. In the mean time the Litharge is to be pounded in a great Braſs-Mortar, and diluted with two or three Pints of clear Water; but it will be requiſite ſpeedily to pour out into another Veſſel the muddy Water which is impregnated with the more ſubtil part of the Litharge, whilſt the thicker remains at the bottom of the Mortar; whereupon this part of the Litharge will ſink to the bottom of the Water, and the Litharge remaining in the Mortar is to be pounded again. Then having diluted it in the Water of the firſt Lotion, or in ſome other freſh Water, the muddy Liquor is to be pour'd by Inclination upon the ſubtil Litharge that remained in the bottom of the Veſſel. Afterward you may continue to pound the Litharge, to bruiſe it in the Water, to pour it off by Inclination, and to let the Powder ſettle till there be left only at the bottom a certain impure part of the Litharge, capable of being pulveriz'd, and raiſed amidſt the Water. As ſoon as the Lotions are well ſettled, and care hath been taken to ſeparate by Inclination the Water which ſwims over the Powder of Litharge; this Powder is to be dried, and having weigh'd out the appointed Quantity,

it

it is to be put as yet cold into a Copper-pan tinn'd within, and ſtirred about to mingle it with the Oil, Lard, and Decoction of Palm-Tree Tops. When theſe Ingredients have been well incorporated together, a good Charcoal-Fire muſt be kindled in a Furnace, over which they are to be boiled, ſtirring it continually with a great wooden *Spatula*, and conſtantly maintaining an equal degree of Heat during the whole time of their boiling. At laſt you may add the rubified Vitriol, diſſolved in a Portion of the Liquor that hath been reſerved, if you would have the Plaiſter tinctur'd with a red Colour; or elſe white Vitriol diſſolved in the ſame Decoction, if it ſhall be thought fit to give a Whiteneſs to the Plaiſter, which may be formed into Rolls, and wrapped up with Paper.

This Plaiſter is uſed for the Cure of Wounds, Ulcers, Tumours, Burns, Contuſions, Fractures, and Chilblains; and is alſo uſed for Iſſues. If you mingle with it the third or fourth part of its weight of ſome convenient Oil, it will attain to the Conſiſtence of a Cerate; and this is that which is called *Diſſolved Diapalma* or *Cerate* of *Diapalma*.

The Plaiſter of Simple Diachylum.

Take of Marſh-Mallow-Roots peel'd, three Drams; Linſeed and Fenugreek-ſeed, of each four Ounces; three Quarts of Spring-water; two Quarts of common Oil, and two Pounds of Litharge of Gold.

Let the Mucilages of the Marſh-Mallow-Roots, and of the Linſeed and Fenugreek-ſeed be taken, as hath been ſhewn in the making of *Unguentum Althææ*, and let the Litharge be prepared after the ſame manner as for the Plaiſter of *Diapalma*. Having at firſt well mix'd the Oil with the Litharge in a large Copper Veſſel or Pan, tinn'd on the inſide, being wide at the top, and tapering like a Cone toward the bottom; as alſo having afterward added and well incorporated the Mucilages; a moderate Charcoal Fire is to be kindled in a Furnace, upon which the Veſſel is to be ſet, and the whole Maſs is to be ſtirred about inceſſantly with a wooden *Spatula*; and as faſt as is poſſible. A gentle Fire is to be maintained, and the Boiling and Agitation to be continued, till it be perceived that the Plaiſter begins to ſink in the Pan; then the heat

of the Fire muſt be diminiſh'd one half at the leaſt; and it will be requiſite only to cauſe an Evaporation by little and little, of the ſuperfluous Moiſture that might remain in the Plaiſter, which being conſum'd, is a ſign that it is ſufficiently boiled, eſpecially if it have attained to its due Conſiſtence and Whiteneſs.

This Plaiſter ſoftens and diſſolves hard Swellings, and even the Scirrhous Tumours of the Liver and Bowels; it finks the Scrophulous or King's-Evil Tumours, and the old remains of Abſceſſes, *&c.*

The Plaiſter of Andreas Crucius.

Take two Ounces of Roſin, four Ounces of Gum *Elemi*, *Venice*-Turpentine and Oil of Bays, of each two Ounces.

After having beat in Pieces the Roſin and Gum *Elemi*, they are to be melted together over a very gentle Fire, and then may be added the Turpentine and Oil of Bays. When the whole Maſs hath been by this means well incorporated, it muſt be ſtrained through a Cloth, to ſeparate it from the Dregs. The Plaiſter being afterward cool'd, is to be made up in Rolls, and kept for uſe.

This Plaiſter is proper for Wounds of the Breaſt: it alſo mundifies and conſolidates all ſorts of Wounds and Ulcers, diſſipates Contuſions, ſtrengthens the parts in Fractures and Diſlocations, and cauſeth the ſerous Humours to paſs away by Tranſpiration.

Emplaſtrum Divinum.

Take of Litharge of Gold prepared, one Pound and an half; three Pints of common Oil; one Quart of Spring-water; ſix Ounces of prepared Load-ſtone, Gum *Ammoniack*, *Galbanum*, *Opopanax*, and *Bdellium*, of each three Ounces; Myrrh, *Olibanum*, Maſtick, Verdegreaſe, and round Birth-wort, of every one of theſe an Ounce and an half; eight Ounces of yellow Wax, and four Ounces of Turpentine.

Let

Let the Gum *Ammoniack*, *Galbanum*, *Bdellium*, and *Opopanax*, be diſſolv'd in Vinegar, in a little Earthen Pipkin; ſtrain them thro' a cloſe Cloth, and let them be thicken'd by Evaporation, according to the Method before obſerv'd in the other Plaiſters. Then prepare the Load-ſtone upon a Porphyry or Marble-Stone, and take care to bruiſe ſeparately the *Olibanum*, the Maſtick, the Myrrh, the round Birth-wort, and the Verdegreaſe, which is to be kept to be added at laſt. In the mean while, having incorporated cold the Oil with the Litharge, and mingled the Water with them, they are to be boil'd together over a very good Fire, ſtirring them inceſſantly, till the whole Compoſition hath acquired the Conſiſtence of a ſomewhat ſolid Plaiſter, in which is to be diſſolved the yellow Wax cut into ſmall Pieces. Afterward having taken off the Pan from the Fire, and left the Ingredients to be half cool'd, intermix the Gums, which have been already thicken'd and incorporated with the Turpentine; then the Load-ſtone mingled with the Birth-wort, Myrrh, Maſtick, and *Olibanum*; and laſt of all the Verdegreaſe. Thus when all theſe Ingredients are well ſtirred and mix'd together, the Plaiſter will be intirely compounded; ſo that it may be made into Rolls, and and kept for neceſſary Occaſions.

This Plaiſter is efficacious in curing all kinds of Wounds, Ulcers, Tumours, and Contuſions; for it mollifies, digeſts, and brings to Suppuration ſuch Matter as ought to be carry'd off this way. It alſo mundifies, cicatrizes, and intirely conſolidates Wounds, *&c.*

CHAP. IV.

Of Cataplaſms or Pultiſſes.

CATAPLASMS are uſually prepared to aſſuage Pain; as alſo to diſſolve and diſſipate recent Tumours, and are made thus:

Take four Ounces and an half of white Bread, one Pint of new Milk, three Yolks of Eggs, one Ounce of Oil of Roſes, one Dram of Saffron, two Drams of the Extract of *Opium.*

The Crum is to be taken out of the inſide of a white Loaf newly drawn out of the Oven, and to be boil'd with the Milk in a Skillet over a little Fire, ſtirring it from time to time with a *Spatula,* till it be reduc'd to a thick Pap. After having taken the Veſſel off from the Fire, the three Yolks of Eggs beaten are to be put into it, the Ounce of Oil of Roſes, and the Dram of Saffron pulveriz'd: to theſe Ingredients may be added two Drams of the Extract of *Opium* ſomewhat liquid, if the Pain be great.

Here is another Cataplaſm proper to mollifie and to bring to Suppuration, when it is neceſſary.

Take white Lilly-Roots, and Marſh-Mallow-Roots, of each four Ounces; the Leaves of common Mallows, Marſh-Mallows, Groundſel, Violet-Plants, Pellitory of the Wall, Brank-Urſin, of every one of theſe Herbs one handful; the Meal of Linſeed, Fenugreek, and Oil of Lilies, of each three Ounces.

The Roots, when waſh'd and ſlic'd, are to be boil'd in Water, and the Leaves being added ſome time after, the Boiling is to be continued till the whole Maſs becomes perfectly tender and ſoft; at which time having ſtrain'd the Decoction, beat the remaining groſs Subſtance in a Stone-Mortar, with a wooden Peſtle, and paſs the Pulp thro' a Hair-Sieve turned upſide down. Then let the Decoction and Pulp ſo ſtrain'd be put into a Skillet, and having intermixt the Meal of Lin-ſeed, Fenugreek, and Oil of Lilies, let them be boil'd together over a gentle Fire, ſtirring about the Ingredients from time to time, till they be all ſufficiently thicken'd. Theſe two Cataplaſms may ſerve as a Model for the making of many others.

CHAP.

CHAP. V.

Of OILS.

OILS are made either by Infuſion or Expreſſion.

Simple Oil of Roſes made by Infuſion.

Take two Pounds of Roſes newly gather'd, and bruiſed in a Mortar; half a Pint of the Juice of Roſes, and five Pints of common Oil: Let the whole Compoſition be put into an Earthen Veſſel, leaded and well ſtopt, and then let it be expoſed to the Sun during forty Days. Afterward let it be boil'd in *Balneo Mariæ*; and having ſtrain'd and ſqueez'd the Roſes, let the Oil be kept for uſe.

Compound Oil of Roſes made by Infuſion.

Take a Pound of red Roſes newly gather'd, and pound them in a Mortar; as alſo four Ounces of the Juice of red Roſes, and two Quarts of common Oil. Let the whole Compoſition be put into an Earthen Veſſel leaded, the Mouth of which is narrow, and well ſtopt; and then having expoſed it to the Sun during four Days, let it be ſet in *Balneo Mariæ* for an Hour, and then ſtrain'd and ſqueez'd. Afterward let this Liquor be put into the ſame Veſſel, adding to it the Juice of Roſes, and Roſes themſelves, in the ſame quantity as before: let the Veſſel be ſtopt; let the Maceration, Boiling, Straining, and Expreſſion be made in like manner as before; and let the ſame Operation be once more reiterated: then let your Oil be depurated, and preſerv'd for uſe.

Theſe Oils repell and diſcuſs Defluxions of Humours, ſuppreſs Inflammations, mitigate the Head-ache and *Deliriums*, and provoke to Sleep. They muſt be warm'd before the Parts are anointed with them; and they may be given inwardly againſt the Bloody-flux and Worms, the Doſe being from half an Ounce to a whole Ounce. The Parts are alſo anointed with them in Fra-

ctures and Diſlocations of the Bones, and *Oxyrodins* are made of them with an equal quantity of Vinegar of Roſes.

Oil of Sweet-Almonds made by Expreſſion.

Take new Almonds that are fat and very dry without their Shells, and having ſhaken them in a ſomewhat thick Sieve, to cauſe the Duſt to fall off, let them be put into hot water till their Skins become tender, ſo that they may be ſeparated by ſqueezing them with the Fingers. Afterward having peeled them, let them be wiped with a white Linen-Cloth, and ſpred upon it to be dry'd: Then they are to be put in a Stone-Mortar, and pounded with a wooden Peſtle, till the Paſte grows very thin, and begins to give Oil: this Paſte is to be put into a little Linen Bag, new and ſtrong, the Mouth of which hath been well tied; and the Bag is to be plac'd between two Platines of Tin, or of Wood lined on the inſide with a Leaf of Tin; ſqueezing the whole Maſs gently at firſt, but afterward very ſtrongly, and leaving it for a long while in the Preſs, that the Oil may have time to run out.

This Oil mitigates the Nephritick Cholicks, remedies the Retention of Urine, facilitates Child-birth, allays the After-pains in Women newly deliver'd, and the Gripes in young Infants. It is taken inwardly faſting, from half an Ounce to two Ounces; and it is uſed in Liniments to aſſuage and mollifie. The Oils of common Wall-Nuts and ſmall Nuts, may be alſo prepared after the ſame manner as that of Sweet-Almonds.

The Oil of Bays.

Take as much as you pleaſe of Laurel or Bay-berries, well cleanſed, perfectly ripe, and a little bruiſed; let them be put into a Kettle, and boil'd with a ſufficient quantity of water during half an Hour; then ſtrain and ſqueeze them ſtrongly; let the Liquor cool, and ſcum off the Fat that ſwims upon the water. Afterward pound the remaining Subſtance in a Mortar, and cauſe it to be boil'd again for half an Hour, with ſome of the firſt water

water which was left, adding a little freſh; then ſtrain and ſqueeze it as before, and take off the Oil that ſwims on the top. But the firſt Oil is better than the ſecond, and therefore ought to be kept ſeparately. The Oils of Berries of Maſtick, Myrtle, and other oleaginous Plants may be extracted after the ſame manner.

The Oil of Bayes mollifies, attenuates, and is opening and diſcuſſive: it is very good againſt the Palſie, and the Shiverings of cold Fits of a Fever or Ague, if the Back be anointed with it; as alſo againſt Scabs, Tetters, *&c.*

The Oil of Eggs by Expreſſion.

Take newly laid Eggs, and let them be harden'd in water; then ſeparate the Yolks, and put them into a Frying-pan over a gentle Coal-fire, ſtirring them about from time to time, and at laſt without diſcontinuing, till they grow reddiſh, and begin to yield their Oil: then they are to be ſprinkled with Spirit of Wine, and pour'd very hot into a little Linen-Bag, which is to be tied and ſet in a Preſs between two Plates heated, ſo that the Oil may be ſqueez'd out as readily as is poſſible.

This Oil mitigates the Pains of the Ears and Hæmorrhoids, cures Scabs, and Ring-worms or Tetters; as alſo Chaps and Clefts in the Breaſt, Hands, Feet, and Fundament; and is made uſe of in Burns, *&c.*

CHAP. VI.

Of Collyriums.

COLLYRIUMS are Medicines prepar'd for the Diſeaſes of the Eyes: the following is taken from *Lanfrancus.*

Take a Pint of white-Wine, three Pints of Plantain-water, three Pounds of Roſes, two Drams of *Orpiment*, one Dram of Verdegreaſe; Myrrh and Aloes, of each two Scruples.

The *Orpiment*, Verdegreaſe, Myrrh, and Aloes are to be beaten to a fine Powder, before they are intermixt with the Liquors, This *Collyrium* is not only good for the Eyes, but is alſo of uſe to make Injections into the Privy-parts of Men and Women: but before the Injections are made, it ought to be ſweeten'd with three or four times the quantity in weight of Roſe, Plantain, or Morel-water.

A dry Collyrium.

Take two Drams of Sugar-candy, prepared Tutty, Lizard's Dung, of each one Dram, white Vitriol, Succotrin Aloes, and *Sal Saturni*, of each half a Dram.

Let the whole Compoſition be reduc'd to a very fine Powder, and mixt together. Two or three Grains of this may be blown at once into the Eye with a ſmall Quill, Pipe of Straw, or Reed, as long as it is neceſſary; and the ſame Powder may alſo be ſteept in Ophthalmick Waters, to make a liquid *Collyrium*.

A Blue Collyrium.

Take a Pint of Water, in which unſlack'd Lime has been quench'd, and a Dram of *Sal Armoniack* pulveriz'd; mingle theſe Ingredients together in a Braſs Baſin, and let them be infus'd during a whole Night; then filtrate the Liquor, and keep it for uſe.

This *Collyrium* is one of the beſt Medicines that can be prepar'd for all manner of Diſeaſes of the Eyes.

CHAP.

CHAP. VII.

Of POWDERS.

A Powder againſt Madneſs or Frenzy.

TAKE the Leaves of Rue, Vervein, the leſſer Sage, Plantain, Polypody, common Worm-wood, Mint, Mother-worth, Balm, Betony, St. *John*'s wort, and the leſſer Centaury, of every one an equal quantity.

Theſe Plants muſt be gather'd in the Month of *June*, during the clear and ſerene weather, and tied up in Noſe-gays or little Bundles, which are to be wrapped up in Paper, and hung in the Air to be dried in the Shade: Afterward they are to be pounded in a great Braſs Mortar, and the Powder is to be ſifted thro' a Silk-Sieve.

The Doſe of this Powder is from two to three Drams, mingled with half a Dram of the Powder of Vipers, in half a Glaſs of good white-Wine every Morning faſting, for fifteen Days ſucceſſively. It has an admirable effect, provided the wounded Perſon be not bit in the Head or Face, and that the Wound has not been waſh'd with Water.

CHAP. VIII.

Styptick-Water.

TAKE *Colcothar* or red Vitriol that remains in the Retort, after the Spirit has been drawn off, burnt Alum, and Sugar-candy, of each thirty Grains; the Urine of a young Perſon, and Roſe-water, of each half an Ounce; and two Ounces of Plantain-water: let the whole Mixture be ſtirr'd about for a long time in a Mortar, and then put

put into a Vial. But the Liquor muſt be pour'd off by Inclination when there ſhall be occaſion to take any for uſe.

If a Compreſs ſteept in this Water be laid upon an open Artery, and held cloſe with the Hand, it will ſoon ſtop the Blood; a ſmall Tent may be alſo ſoak'd in it, and put into the Noſe for the ſame purpoſe. If it be taken inwardly, it ſtops the ſpitting of Blood, and the Dyſentery or Bloody Flux, as alſo the Hæmorrhoidal and Menſtruous Fluxes; the Doſe being from half a Dram to two Drams, in Knot-Graſs-water.

A SHORT INTRODUCTION TO BOTANY.

INTRODUCTION
TO
BOTANY

A SHORT INTRODUCTION TO BOTANY:

Read the Preface, in order to underſtand the Plants and their uſe.

A

ABIES. The *Fir* is a Tree always green, which grows very high and with a ſharp point. The Fruit of it is an Apple compoſed of Scales ſet one above another. Its Leaves ſtand ſingle, and without order, round the Branches: they are pretty long, pointed, and but the twelfth part of an inch broad. The *Fir*, the *Pine*, the *Larch-tree*, the *Cypres*, and the *Yew* are eaſily miſtaken one for the other: but the *Pine* has its Leaves inchaſed two by two in a ſmall membranous Stalk; thoſe of the *Larch-tree* grow a great many together by cluſters, which form a kind of Pencil or Painters Bruſh; the Leaves of the *Cypres* are not bigger than the tips of Pins, and are ſet in Scales one above another, round little Branches, which they intirely cover; thoſe of the *Yew* by pairs, and form as it were a Comb with Teeth on both ſides. All *Firs* are excellent Anti-ſcorbutics. Decoctions are made of all the parts of this Tree with Wine and Water, which are given to ſcorbutic and gouty Perſons to drink. The Miſſeltoe which

which grows upon *Firs* is an excellent Remedy againſt the Gour, if a Dram of it in Powder be taken every morning. The Bark bruiſed and applied to Burns and Ulcers heals them.

ABSINTHIUM. The Flowers of *Worm-wood* are very ſmall Buttons without Leaves, which form ſlender Ears all along the Branches. Its Leaves are ſomewhat broad, whiteiſh on both ſides, and deeply cut: the common *Worm-wood* is very bitter. *Worm-wood* and *Mug-wort* are eaſily miſtaken one for the other: but the Leaves of the latter are whiteiſh on the under ſide, and green on the upper. The Infuſion of the *great common Worm-wood* is given to kill the Worms, to cure Fevers, and to create an Appetite; it is good againſt the Yellow Jaundice, and the Dropſy in the lower Belly. A Wine is made of it, and a Conſerve of its Tops. The Syrup made of its Juice is taken inwardly for all the Diſtempers above-mentioned.

ABROTONUM. *Southern-wood* blows like *Worm-wood*, but the Segments of its Leaves are deeper and very narrow. The Leaves of it being dried and infuſed in Oil, are good to anoint the Navel, in order to diſpell the Wind in the Inteſtines. The larger ſort of the male *Southern-wood* is uſed, which has narrow Leaves and reddiſh Stalks.

ABUTILON. This Plant is a Species of *Mallows*, from which it differs onely by its Fruit, which is flat on the upper part, and rounded on the lower; whereas that of the *Mallow* is flat both above and below: but the Virtues of both are the ſame.

ACACIA. The Leaves of this Tree grow by pairs along a Stalk, like our large *Acacias*, but they are extremely narrow. Its Flower is a ſmall Vaſe incloſed in a ſingle Leaf, and its Fruit a round Pod. Our large *Acacias* have their Flowers in Cluſters, and their Fruits are flattiſh Pods. The Juice of the Fruit of the *Egyptian Acacia* is very aſtringent, and an excellent remedy for the inflammations of the Eyes.

ACANTHUS. *Brank-Urſine*, much reſembles a large *Thiſtle*, but its Flowers conſiſt of one ſingle large Petal, which begins with a narrow Ring, and grow the whole length of a long Stalk. Its Fruit is oblong with two Cavities; whereas that of the *Thiſtle* is a large prickly Head.

Head. Cataplasms and emollient Clysters are made of it, in which that sort is used the Leaves of which have no Prickles.

ACER. The *Maple* is a Tree the Leaves of which are cut into five principal parts like the *Plantain*, but not so deep; for the *Plantain-Leaf* much resembles a hand spred open. The Fruit of the *Maple* is like two Wings of a Butter-fly fastened upon a Seed. Both the Leaves and the Fruit are astringent; and Ptisans to bind the Body may be made of them.

ACETABULUM. Its Leaves are fastened to long Threads which proceed immediately from the Root; and they resemble little hollow Basins swimming upon the Water. This Plant is diuretic, and Decoctions of it in white Wine are given to drink.

ACETOSA. Sorrel hath its Seeds three-corner'd, and its Leaves are sour. *Lapathum* or *Bastard-Rhubarb* is easily mistaken for *Sorrel*: but the Leaves of the former are not sour. All kinds of *Sorrel* assuage Choler and all sorts of Fevers. The Leaves roasted under a Coal, and applied to Tumours cause them to break.

ACONITUM. The Flower of *Aconite* resembles a large Head-piece; and its Fruit is a collection of small Husks or Cods: its Leaves are rounded and cut very deep as it were into narrow Straps. There is one kind of *Crow-foot* which is very much like *Aconite*, as is also *Larks-foot*; but their Flowers are not in the shape of Helmets. *Yellow-Aconite*, which is called *Wolf-bane*, is to be applied outwardly: its Roots or its Seeds powdered, and mixed with Grease or Oil, make an Ointment which cures the Itch, and kills Lice.

ADIANTUM. Maiden-hair is like small *Fern*; but its Leaves are half oval, indented, at a little distance from one another, and ranged all along the Branches which are very thin: those of *Fern* are ranged along one side. They generally make use of that sort of *Maiden-hair* which has Leaves like *Coriander*; but all the sorts have the same Virtue. A Syrup is made of the Decoction of the Leaves, which is given for Coughs and all the Diseases of the Lungs.

AGARICUM. Agaric is a spongy substance sticking to the Trunks of Trees: that which adheres to the Trunk of

of the *Larch-tree* is purgative; two drams of which may be infuſed in a large Glaſs of Wine.

AGERATUM. Its Flowers are ſmall Tubes with two Lips, which form large Noſe-gays at the end of the branches, in manner of an *Umbrello.* Its Fruit is flat, membranous, ſmall, and has two Cavities. The Leaves are ſomewhat like thoſe of *Organy*, and are indented pretty deep. The *Ageratum* with Purple Flowers is uſed; a Perfume is made of its Leaves, which is put under Women to provoke Urine, and to ſoften the hardneſs of the parts.

AGRIMONIA. Agrimony. Its Flower is a little Roſe, and its ſmall Fruit is incompaſſed with a Ring of Prickles. Its Leaves are notched all round, and ranged by Pairs along the Stalks; and between the great Leaves there are ſome very ſmall. Its little Flowers are yellow, and grow along the Branches. Decoctions are made of its Leaves for Gargariſms, which cleanſe the Ulcers of the Mouth, and aſſuage its Inflammations. A Ptiſan made of the tops thereof ſtops Dyſenteries, Hæmorrhages, and inward Inflammations. Applied outwardly, it heals all ſorts of Wounds, and diſſolves Tumours. A Decoction made of it is ſpecific for the piſſing of Blood: and it is a great Vulnerary.

ALATERNUS. This Shrub is eaſily confounded with the *Phillyrea*: but the Leaves of the former ſtand ſingle upon the Branches; whereas thoſe of the latter ſtand by Pairs. The Flowers of the *Alaternus* are ſmall Tubes divided on the top; and its Fruits are Berries furniſhed with three Seeds. Its Leaves are tough, coriaceous, and of an Ivy-green Colour. They are cleanſing and binding; and Gargariſms are made of them.

ALCEA. Vervain-Mallows is like the common *Mallows* as to its Flower and its Fruit; but its Leaves are more deeply cut. They have alſo the ſame Virtues, being emollient and aſſuageing Pain. Ptiſans and Clyſters are made of them.

ALCHIMILLA. Ladies-mantle or *Lions-paw* and the *common-Mallows* are very much alike: but the Leaf of the former is much more neatly ſerrated round the Edges. Its Flowers are compoſed of ſmall Chives, ſet in Empalements, diſpoſed in an Umbel at the end of the Stalks, which the *Small Common Mallows* have not.

The

The *Alchimilla vulgaris* of *C. Bauhin* is commonly uſed. Its leaves are faſtened to long downy pedicles which proceed from the Root. Vulnerary Potions are made of the Leaves, and Cataplaſms for Ruptures.

ALGA. Thoſe long ſmall Filaments which flote upon the Water are called *Alga*: they grow yellow, and appear like a heap of rotten Stuff which flotes upon ſtagnant Waters. They are aperitive and vulnerary. Some of them are broader than others, and reſemble *common Graſs.*

ALKEKENGI. Winter-Cherry is a ſort of *Solanum* or Night-ſhade, which grows moſt commonly in Vine-yards. Its Flower is a little Roſe conſiſting of one Petal; but its Fruit reſembles a red Cherry when it is full ripe, incloſed in a thick Bag or membranous Cod. They take four or five of its ripe Fruits, which they ſqueeze between the Fingers, and infuſe them for ſome hours in a Glaſs of white Wine; and this is drunk to appeaſe the Nephritic Cholic, to provoke Urine, and for the Jaundice. A Syrup is made of the Fruit for the ſame Diſtempers.

ALLIUM. Garlic and *Leek* are eaſily miſtaken one for the other: the Leaves of both are broad; but the Root of the former is a Collection of Tubercules, that of the latter is very long and round like a Pillar. *Garlic* is eaten with Vinegar, to drive away Worms, to cure the windy Cholic, and to prevent the Infection of bad Air.

ALNUS. The *Alder* is a Tree, which has for Flowers ſmall Catkins: and its Fruit before it is ripe is like a hard *Mulberry*, and when ripe like a ſmall Pine-apple. It grows upon the Waters. The Leaves of this Tree, being bruiſed, are reſolvent, and are applied to Tumours to diſſolve them.

ALOE. Aloes has very large Leaves, ſharp at the end, an inch thick, and fat, which have a yellow Juice. Its Flower is a Tube of one Petal divided on the top: its Fruit is oblong, and has three Cavities. This Plant is very bitter. Its Juice thickened is a ſtrong Purge, provokes the Terms, and deſtroys Worms.

ALSINE. Chick-weed is very much like *Pimpernel.* They have both ſmall Leaves like Sparrows Tongues, two by two: but *Chick-weed* has a round Stalk, and a ſmall Roſe-flower conſiſting of ſeveral Leaves; whereas *Pimpernel* has a ſquare Stalk, and a Roſe-Flower of one ſingle Petal. The *Alſine media* of *C. Bauhin* is generally uſed, which is cooling and emollient. Decoctions are made of it, and applied to the Piles, to cool them, and to aſſuage the pain. There is nothing ſo common.

ALTHÆA. Marſh-Mallow has Flowers and Fruit like thoſe of the *Common-Mallow,* and the Leaves of both are very much alike, onely thoſe of the former are whiter, ſofter, and more ſupple, than the *Common-Mallow.* The Roots of it are emollient, anodyne, and laxative: Ptiſans are made thereof, which are drunk to abate the ſharpneſs of a Cough. Cataplaſms are made of the whole Plant which ripen Tumours; and ſome of it is likewiſe put into Clyſters for the Stone-Cholic.

ALYSSON: Mad-wort. The Flower of it conſiſts of four Leaves; its Fruit is flat and gibbous in the middle, compoſed of two ſmall Membranes laid one upon the other. The Flower reſembles a ſmall Gilly-flower. That Species is uſed which is called *Thlaſpi montanum luteum.* It is aperitive, and eſteemed good againſt Madneſs.

ALYSSOIDES. Its Flower is like that of *Mad-wort*; but its Fruit is round, and has two Cavities.

AMARANTHUS. Amaranth or *Flower-gentle* and *Blite* are very difficultly diſtinguiſhed: but the former produces ſmall Roſe-flowers, which form large, fine, and long Plumes red or yellow, *&c.* whereas the latter has for Flowers onely fine Chives, which form ſmall long Spikes of a green or greeniſh Colour. Decoctions are made of its Leaves, which are cooling and binding.

AMBROSIA. Oak of Jeruſalem has Flowers which are heads made of ſmall Tubes, and ſet along the Branches. Its Fruit is a ſmall Pillar with prickles. Its Leaves reſemble *Wormwood*; and have an aromatic taſte. This Plant is cordial, reſolvent, and is both taken inwardly, and applied outwardly. *Ambroſia maritima* is the Species which is in uſe.

AMMI. This umbelliferous Plant has its Leaves long and narrow, and as it were by pairs upon one Stalk, which ends in a Leaf. The Seeds of it are uſed, which are hot, and expell the Wind.

AMIGDALUS. The *Almond-tree* is eaſily miſtaken for the *Peach-tree*: but the Leaves of the former are ſhineing and firm; thoſe of the latter of a dark green, and not ſhineing. The Flowers of both are Roſe-flowers: but *Almonds* are hard; whereas the *Peach* is ſoft and ſucculent. Oil of ſweet *Almonds* is lenitive and aſſuages pain; two Ounces may be drunk for the Stone-Cholic; and the part affected may be anointed therewith.

ANACAMPSEROS. *Orpine* or *Live-long* and *Sedum* which we call *Houſe-leek* are eaſily taken one for the other: for their flowers are ſmall Roſes, and their fruits a bunch of ſmall Pods. But *Houſe-leek* reſembles in growing the Head of an *Artichoke*, which *Orpine* does not. The common *Orpine* is cooling, and binds very much.

ANAGALLIS. *Pimpernel* has a ſquare Stalk; its Leaves reſemble the little Tongues of Sparrows; and ſtand by pairs. It has mono-petalous Roſe-Flowers, which grow ſingle from the boſom of the Leaves, and bears a ſmall round fruit. *Chick-weed* reſembles *Pimpernel*, but the Stalk thereof is round, and the flower conſiſts of ſeveral Petals. That Species is in uſe which has a blue flower and a reddiſh flower. Its Leaves are excellent Vulneraries.

ANAGYRIS: Stinking Bean Tre-foile. This Tree has Leaves pretty large three by three upon one Foot-ſtalk. Its flowers are Cluſters which grow like Bunches of Grapes or in Feſtoons, as well as its fruits which are large round Pods. *Broom* might be taken for this Tree, but its Leaves are very ſmall, and it is onely a Shrub; whereas the other grows pretty high, having roundiſh Pods, but thoſe of *Broom* are flat. That Species is uſed which ſtinks. Its Seeds taken in powder are a Vomit.

ANAPODOPHYLLON. Its Leaf is cut in ſeveral parts even to the Pedicle like the foot of a Gooſe, from which it takes its Name: and every part is cut again in two at the end. Its flower is a Roſe-flower, and its fruit oblong. See *Chenopodium*.

ANDROSACE. This Plant has a Flower like a Tube divided on the top into ſeveral parts. The Leaves are

not wrinkled like those of the *Cowslip*; and its fruit is round, whereas that of the *Cowslip* is oblong. The Seeds of the great *Androsace* of *C. Bauhin* are diuretic.

ANDROSÆMUM. *Tutsan* might be taken for *Hypericum* or St. *John's-wort*; but its Leaves are much larger, and its Stalks reddish, and it grows like a small Shrub. The Flowers of both are little Roses: but those of *Tutsan* are much larger, and its fruit an oblong Berry; whereas that of St. *John's-wort* is three-pointed. It is aperitive, resolvent, and vulnerary, and is used both inwardly and outwardly.

ANEMONE. The *Anemone* and the *Pasque-flower* are extremely alike, their Flowers resemble Roses which grow one by one at the end of the Stalks. Their Stalks are furnished only with three Leaves towards the middle. But the Fruit of the *Anemone* is oblong and single, that of the *Pasque-flower* consists of several Grains joined together, every one of which is furnished with a long Tail. Sternutatories and sharp Eye-salves may be made thereof.

ANETHUM. *Dill*, *Fennel*, and *Meu* are umbelliferous Plants which very much resemble one another in their Leaves; but the Seed of *Dill* has a small border which the others have not. The Seed reduced to a powder is put into Clysters, to expell the Wind. It stops the Hick-up and Vomiting.

ANGELICA. *Angelica* and *Master-wort* are umbelliferous Plants difficult to be distinguished. Their Leaves are large by pairs upon a Stalk full of Branches, which ends in a single Leaf: but the Seed of *Master-wort* is edged with a thin Membrane, which *Angelica* has not. They are Aromatics. *Angelica*, both cultivated and wild, is used as an excellent remedy against Poison; a Dram of it in powder is taken to cause Sweat. The Root of it conserved is a Pectoral.

ANGURIA. *Citrull* or *Water-Melon* and *Coloquintida* are alike; for the Leaves of both are cut and jagged very deeply: but the Fruit of the *Coloquintida* is very bitter, whereas the *Citrull* is not so. This is one of the four cold Seeds.

ANI-

ANISUM. Anis is a kind of *Parſley*, but has a different taſte: the Leaves chewed taſte like *Anis-ſeed*. It is carminative.

ANONIS. Reſt-harrow has its Leaves three by three upon a Foot-ſtalk, and one by one upon the Branches. Its Flower is a Cluſter, and its Fruit a Pod, which makes it liable to be confounded with *Broom*: but the Pods of *Broom* are very flat, thoſe of *Reſt-harrow* roundiſh. Decoctions are made of the Root which are very aperitive and diuretic.

ANTIRRHINUM. The Flower of *Calves-Snout* reſembles the Muzzle of that Animal, being all of one piece. The Fruit when it is ripe has two Eyes and a Mouth like thoſe of an Animal. The Flowers and Fruits grow along the Branches. The *Antirrhinum Vulgare* of *J. Bauhin* is cooling.

APARINE. The Leaves of *Cleavers* or *Gooſe-graſs* are rough or downy, and diſpoſed as it were by Stories round the Joints of the Branches. It is very difficult to diſtinguiſh the *Rubia* or *Madder*, the *Gallium* or *Cheeſe-rening*, and the *Cruciata* or *Croſs-wort* from *Cleavers* But the *common Madder* has red Roots and Fruits full of juice; the *Cheeſe-rening* has not rough Leaves; the *Croſs-wort* has it Leaves four by four; whereas *Cleavers*, as well as *Cheeſe-rening*, has more. The *Aparine Vulgaris* of *C. Bauhin* is uſed. The Water diſtilled from it is given for a Dyſentery, for the Jaundice, and for an Epilepſy.

APHACA. This Plant is like *Vetches*, but its Leaves grow by pairs at every Joint of the Stalk; and from every Joint likewiſe proceeds a ſtring with which it takes hold: but the Leaves of *Vetches* grow by pairs upon one Stalk, at the end of which there is a ſtring. The Flowers and the Fruits of both are Cluſters and Pods filled with ſmall Peas.

APIUM, Parſley and *Chervil* are umbelliferous Plants which reſemble each other. The Leaves of the former are as it were compoſed of other Leaves, or cut along the mid-rib. It has a ſmell different from that of *Chervil*, the Seed of it is chaneled, which that of *Chervil* is not. *Smallage* or *Celery* has Leaves much larger than *Garden-parſley*: its Seeds drive away Worms.

APOCYNUM. Dogs-bane might be taken for ſome Species of *Spurge*; for both yield a milky Juice: their

Flowers are likewiſe mono-petalous, which form a ſmall Vaſe cut into ſeveral Segments on the top. But the fruits of *Dogs-bane* are Husks or Sheaths which ſtick together at one end by pairs; whereas *Spurge* has a Fruit which is triangular. The *Apocynum Ægyptiacum* is in uſe, of which diſſolving Cataplaſms are made which are laid upon cold Tumours. The Juice is good to rub ſcabby Perſons; but it muſt not be uſed internally.

AQUIFOLIUM. The *Holly*, the *Ever-green Oak*, and the *Cork-tree* are alike, for they have all a coriaceous Leaf, ſtrong, and armed with pickles: but the *Holly* bears Berries, the *Ever-green Oak* and the *Cork-tree* Maſt, and have very few prickles. Decoctions are made of the Bark and of the Root of common *Holly* to aſſuage Coughs; and the Berries are ſwallowed for the Cholic.

AQUILEGIA. The Flower of *Columbine* is compoſed of Horns and flat Leaves intermingled. Its Fruit is a Bunch of pretty long Pods. Its Flowers bend downwards, being faſtened at the end of the Branches; and its leaves are pretty broad, and cut in very deep. The wild ſort, and that with a ſingle Flower are uſed. A Dram of the Root powdered taken in Wine gives eaſe in the Cholic.

ARALIA. It has a Roſe-flower; its Fruits are ſoft, round, and ſucculent Berries, furniſhed with pretty long Seeds in Cluſters. It is a great Panacea.

ARBUTUS: the *Straw-berry-tree.* The Leaves of this Shrub reſemble thoſe of the *Bay-tree.* Its Flowers are mono-petalous and like a Bell, growing ſeveral of them together; as well as its Fruits, which are round and plump, and have ſeveral Cells. That Species which has ſerrated Leaves is uſed. It is very aſtringent, and Decoctions are made of it to ſtop a Looſeneſs.

ARGEMONE. Baſtard-Poppy differs from the other Species of *Poppy* onely by its Fruit, which is hexagonal and full of prickles. It has a Roſe-flower. It cauſes Sleep; and it is applied externally to Wounds, and to the Eyes to allay Inflammations.

ARISARUM. Friers-cowl differs from *Wake-robin* or *Cuckow-pint*, and from *Dragon-wort*, by its Flower, which is a Tube bent downwards, out of which proceeds a long Fruit which bends downward alſo. A Dram of the

the Root of this Plant powdered is taken againſt the Plague.

ARISTOLOCHIA. Birth-wort has Leaves cut in the ſhape of a Heart at the tail, which grow ſingle: its flower conſiſts of one flat Petal, which begins with a Tube. Its fruits reſemble Figs, and have ſix Cells. The flowers and the fruits grow out of the boſoms of the Leaves. That Species of *Birth-wort* which has a round Root is uſed, and that which has a long one. They provoke the Terms, cleanſe Ulcers, and are very vulnerary: both the Leaves and the Roots are uſed.

ARMENIACA. The *Apricock-tree* and the *black Poplar* are alike in their Leaves: but the flower of the former is a ſmall Roſe, and its fruit which is fleſhy contains a furrowed Tube. The fruit is cordial and pectoral. The Gum of this Tree taken in Powder is good againſt the Stone-Cholic, and provokes ſpitting.

ARTHEMISIA. Mug-wort is very much like *Worm-wood*, but its Leaves are green on the upper ſide, and white on the under, whereas thoſe of *Worm-wood* are whiteiſh on both ſides. The common *Mug-wort* is very aperitive. Ptiſans and Broths are made of the Leaves and of the flowers for the Vapours, and to bring down the Terms: conſerves and Syrups are likewiſe made of them which are ſerviceable to Women in their Delivery.

ARUM. The Leaves of *Wake-Robin* or *Cuckow-pint* are large, not at all divided or notched, and have large Ears towards the tail. Its flower conſiſts of one Petal rolled up like a Horn, out of which proceeds a long fruit furniſhed with Berries. The Leaves and Root bruiſed, and applied to Contuſions, diſſipate them. The Root taken in powder is a Febrifuge: it is ſteeped in Vinegar.

ARUNDO. The *Reed* is like *common Graſs*, but grows very high: its Stalks are hollow: its Roots are diuretic.

ASARINA. The Flower of *Baſtard Aſarum* or *Aſarabacca* conſiſts of one ſingle Leaf, and reſembles the Muzzle of a Calf: its Fruit is round, having two Cells. It is like *Ground-Ivy*, and creeps like that. That Species is uſed which is called *Hedera ſaxatilis.* It is diuretic and aſthmatic.

ASARUM. The Leaves of *Aſarabacca* are round, cut in the Shape of a Heart towards the Tail, and not divided

at all round the edges, being pretty much like those of *Ivy*. Its flowers are Chives; and its fruits hexagonal, having six Cells. A Dram of the Root purges upwards and downwards.

ASCLEPIAS. If *Swallow-wort* yielded a milky Juice, it might be taken for *Apocynum*, or for *Periploca*. That Species which bears white flowers is in use. The Infusion of it is sudorific and diuretic.

ASPARAGUS. The Leaves of *Asparagus* are very small, and somewhat like Fennel, but have not the same smell. Its flowers are small Rose-flowers, which grow all along the Branches upon foot-stalks, as well as its fruits, which are round and hard berries. Those which are cultivated are used: Drinks are made of the Seeds and of the Roots which are very diuretic.

ASPERUGO. Small wild Bugloss, great Goose-grass or *German Mad-wort* has a flower in the shape of a Funnel, cut into several Segments on the top. The Fruit consists of two Plates laid one upon the other, between which are four oblong Seeds. This Plant resembles *small wild Borage*. It is detersive.

ASPHODELUS. The *Asphodel* has very long and narrow Leaves like *Garlic*. Its flower consists of one single Leaf cut very deeply into several segments. Its fruit is somewhat roundish, triangular, having three Cells, which contain triangular Seeds: its Roots are grumous. The Roots of *Asphodel* are proper to cleanse Ulcers, and are diuretic.

ASPLENIUM. The Leaves of *Spleen-wort* are long, narrow, and notched on both sides. They grow directly out of the Root. Decoctions are made of it in Wine, to open the Obstructions of the Liver and of the Spleen. It is aperitive, pectoral, and diuretic.

ASTER. Star-wort has *Flowers* like those of the *Sun-flower*, but much smaller, and growing at the end of the branches. One might take the *Virga aurea* for *Star-wort*; but the former has flowers all along the branches. The *common Star-wort* with blue flowers is in use. Gargarisms are made of the Flowers for the Inflammations of the Throat.

ASTERISCUS blows like *Star-wort*, but it has an Empalement much larger than the flower which it incompasses, and its Seeds are bordered with a little Leaf.

ASTRAGALUS. This Plant has Leaves growing two by two the whole length of a Stalk like our *Acacias*, and one at the extremity. Its Flower is a Cluſter, and its Fruit a Pod with two rows of Seeds. The *Aſtragalus of Montpellier* of *J. Bauhin* is uſed: Aſtringent and diuretic Decoctions are made of its Seeds and of its Root.

ASTRAGALOIDES differs from the *Aſtragalus* by its fruit, which is a Pod in the ſhape of a Boat.

ASTRANTIA. This Species of *black Hellebore* is an umbelliferous Plant, which has a tuft of flowers ſuſtained by the Leaves. The Leaves of this Plant reſemble thoſe of *Sanicle.* That which is called *Helleborus niger ſaniculæ folio* has Roots which are very purgative.

ATRIPLEX. Orache has for Fruits or Seeds very ſmall Buttons, which form Cluſters all along the branches, in the boſom of the Leaves. There is another Species, the fruits whereof are altogether flat and round, compoſed of two Membranes laid one upon the other. The generality of the *Oraches* have ſome-what of the nature of *Beet.* That kind is uſed which is cultivated in Gardens: but they are all cooling, moiſtening, and emollient; and Clyſters are made of them.

AVENA. The Leaves of *Oats* reſemble thoſe of *common-Graſs.* Its Seeds are long, pointed, faſtened to long tails, all which together form a very fine Panicule. The Stalk is knotted at certain Diſtances, like *Wheat. Oats* fried with Vinegar are applied to Pains, to diſſipate them. Gargariſms and Clyſters are prepared of Decoctions made of them.

AURANTIUM. The *Orange-tree* and the *Citron-tree* are alike: but the Leaves of the former are cut in the ſhape of a Heart on the lower ſide, which thoſe of the *Citron-tree* are not always. Their Flowers are ſmall Roſes; their Fruits are large and fleſhy. The *Citron* is generally longer and ſharper at the ends than the *Orange*, and has not the ſame taſte. The Juice of *Oranges* is very cordial, antiſcorbutic, and cooling. The *Dutch* ſtore themſelves with them in long Voyages.

AURICULA URSI. Bears-Ear has fat, ſhort, and roundiſh Leaves, like thoſe of *Common Houſe-leek.* Its flower is a Tube open'd wide, and cut in Segments round the top, and pierced at the bottom; and its fruit is round. It blows like the *Prim-roſe.* That which has a yellow

yellow flower is uſed both inwardly and outwardly; being aſtringent and vulnerary.

AZEDARACH. The Leaves of this Tree grow upon a Rib, like thoſe of the *Aſh*, and are ſerrated. Its Flower is a little Roſe; its Fruit being round and fleſhy, contains a Stone which is pentagonal, and has five Cells. That Species which has a blue flower, bears venomous fruit: a Decoction made of it deſtroys Lice.

B.

BALLOTE. *Baſtard Hore-hound* is eaſily taken for *Hore-hound* or for the *Nettle*: but its flower is a Tube cut into two lips, in a pentagonal Flower-cup, which thoſe Plants which are like it have not. The *black and ſtinking Hore-hound* is good to cleanſe old Ulcers: the Leaves of it are roaſted under hot Embers in a Cabbage-leaf, and applied.

BALSAMINA. *Common* or *female Balſamina* has Stalks like thoſe of large *Purſlane*. Its flowers have generally a Pedicle, and grow ſingle in the boſom of the Leaves, which are like thoſe of the *Willow*. Its fruits are poly-petalous, the Petals being placed ſide-ways by one another, and become yellow as they grow ripe. Being infuſed in Oil, they make a Balſam.

BARBA CAPRÆ. *Goats-beard* and *Meadow-ſweet*, called the *Queen of the Meadows*, are very much alike: for their flowers are ſmall Roſes, the firſt of which has five Petals, and the ſecond four, which form Spikes, and their fruits are ſmall Pods. The Leaves of *Goats-beard* grow ſeveral together at a Rib, which ends in a Leaf. *Meadow-ſweet* has ſmall Leaves between the larger ones, which *Goats-beard* has not; and they likewiſe grow along the Rib, and end in one Leaf. It is cordial, aſtringent, and vulnerary.

BARBA JOVIS. *Jupiter's Beard* is ſo called, becauſe it is a ſmall Shrub all white. Its Leaves are very ſmall, and ranged by pairs upon a Rib, like thoſe of the *Baſtard-Sena*. There are alſo ſometimes placed three together upon one Tail. Its Flower is a Cluſter; and its fruit a Husk including one Seed, which is aperitive.

BELLADONA. Deadly Night-ſhade grows ſix or ſeven feet in height: its flower is a ſmall mono-petalous Cup, and its fruit a Berry having two Cells. It emits large thick Branches of a purple colour, and round. This Plant is ſoporiferous, and diſſolves Tumours, and is uſed only externally.

BELLIS. The *Daiſy* is a ſmall Plant, which grows plentifully in Meadows. It bears ſmall radiated flowers, the Petals of which are planted upon a Superficies, which riſes a little in a Point towards the middle. The flowers grow ſingle upon long Foot-ſtalks, which ſpring immediately from the Roots. This Plant may be diſtinguiſhed from *Camomile* and *Mother-wort*, by its Leaves, which are not cut at all. It is applied to the Eyes for the ſoreneſs of them; or a Water is diſtilled from the Plant and its flowers. Applied externally, it certainly diſpells all Bruiſes; and taken inwardly, it diſſolves the coagulated Blood in a Pleuriſy.

BERBERIS. The *Barberry-tree* is a Shrub which has for flowers little Roſes growing in cluſters. It bears ſmall oblong Fruits, which are red when ripe, of a ſharp taſte, and which grow likewiſe in a Cluſter. It bears likewiſe Thorns which grow three together in one and the ſame boſom: its Leaves are four. A Conſerve is made of the fruits; and the Juice is drawn from them to make a Syrup. Theſe Preparations are cooling, cordial, and aſtringent; and are given in burning Fevers.

BERMUNDIONA. This Plant reſembles the *Iris*; but its Root is not bulbous as that of the *Iris* is.

BETA. Beet and ſeveral kinds of *Oraches* are very much alike: but *Beet* has fruits as big as Peas, rough, like large Warts growing along the branches; and has large Roots which are eaten, which *Orache* has not. Of the Decoctions of its Leaves emollient Clyſters are made. The Leaf of *Beet*, applied to ſcurfy and ſcabby Heads of Children, brings away Water from them in abundance.

BETONICA. The flowers of *Betony* are ſmall mono-petalous labiated Flowers, which are placed all round the Stalk, where they form a pretty large Spike. The Stalks are not branched at all: they are ſquare, and incompaſſed with Leaves notched all round. There are four Seeds in a ſmall Flower-cup. The Roots of *Purple-Betony* purge upwards

upwards and down-wards. A Syrup is made of the Juice drawn from the Flowers and from the Leaves, which is put into vulnerary Potions. A Conſerve is made of the Flowers.

BETULA. The *Birch* is a Tree, which grows very high: its Leaves are triangular, reſembling thoſe of the *black Poplar*; and its Tops are very thin, reddiſh, and pliant. Its flowers are Catkins, and its fruits ſmall Cones. A hole is made in this Tree in the Spring, before its Leaves appear, out of which there will run a good deal of Water. This Water is excellent againſt the Stone-Cholic, and the Gravel: a Glaſs of it is drunk in the morning, or it is mixed with ſome other Liquor. The water which runs from the Wood while it is burning is good for Chaps in the Boſom and in the Hands.

BISTORTA. Biſtort or *Snake-weed*, *Arſe-ſmart*, and *Sorrel* are alike: but *Snake-weed* has fleſhy and twiſted Roots, which *Arſe-ſmart* has not, the taſte whereof is acid. Its Flowers and Seeds grow in an ear, at the end of the branches. The Seeds are triangular, like thoſe of *Sorrel*. The *greater Biſtort* is in uſe, the Roots of which are more twiſted than thoſe of the other Species. Decoctions are made thereof to ſtop the vomiting of Blood.

BLATTARIA. Moth-Mullein and *Verbaſcum* or the *white Mullein* are very much alike: their flowers are ſmall mono-petalous Roſes. But Mr. *Ray* obſerves, that the Fruit of *Moth-Mullein* is round, and that of the *white Mullein* more pointed. That Species which has a yellow flower and jagged leaves, kills the Worms.

BLITUM. Blite reſembles *Amaranth*, and ſeveral kinds of *Orache*: but it produces Spikes, not ſo fine, nor of ſo lively colours as thoſe of *Amaranth*, but finer and longer than thoſe of *Orache*. *Blite* is cooling, emollient, and moiſtening, ſo that it is proper for Ptiſans and Clyſters. See *Amaranthus*.

BOLETUS. The *Morill* is a Muſhroom which is wrinkled and pierced with ſeveral holes, excellent to eat.

BORAGO. Borage and *Bugloſs* are alike, their flowers are ſmall mono-petalous Roſes, and their Leaves are rough; but thoſe of the *Bugloſs* are the longer. The flower of *Borage* is like the Rowel of a Spur: that of the *Bugloſs* is

is a Tube cut into ſegments more rounded than thoſe of *Borage*. A Water is drawn from their Flowers and from their Leaves, to make a Syrup; and the Root is conſerved. Theſe Preparations are cordial, and are given in Fevers, and in other maligant Diſtempers: Ptiſans and cooling Drinks are likewiſe made of them.

BUGLOSSUM. See *Borago.*

BRASSICA. Cole-wort or *Cabbage* has a flower with four Petals: its fruits are Cods or Husks with two rows of Seeds, round and black when they are ripe. Its Leaves are fat, and of the colour of Sea-water. The *common red Cole-wort* is uſed, which is an excellent Vulnerary. They foment Wounds and Ulcers with the Juice, or elſe apply the Leaves to them, after having ſoftened them a little at the Fire. They are applied very hot to Bliſters, to keep them up.

BRUNELLA. Self-heal has flowers with two lips, which form pretty round Spikes. In the Empalement are found four round Seeds. Its Leaves are blackiſh: its Stalks creep on the Ground, and are full of Angles. The great Species is vulnerary, aſtringent, and deterſive; and Gargariſms are made thereof.

BRYONIA. Bryony mounts and climbs like the *Convolvulus* or *bind-weed.* It has Tendrils, and its Leaves are rough, and like thoſe of the Vine; its Branches are without Prickles; its flowers are ſmall mono-petalous Roſes, and its fruits Berries: its Roots are very large. The young Shoots are eaten like Aſparagus, to provoke Urine and the Terms. Its large Roots are very purgative: they are infuſed in Wine, which is drunk; but it is not proper to make uſe thereof.

BUGULA. Bugle has two ſorts of Stalks: one ſort is ſquare, upright, and furniſhed with flowers; the other ſlender and creeping. The flowers are Tubes, lengthened with a lip which is divided into three parts: they are verticillated, and form ſpikes at the end of the ſtalks. Vulnerary Potions are made of it, and Ptiſans for the diſtempers of the Throat, for the Ulcers of the Mouth, for the Dyſentery, and for the Whites.

BULBOCASTANUM. Earth-Nut is an umbelliferous Plant, the Root of which is as large as a *Black Nut*, taſtes like the *Cheſnut*, is fleſhy, and has ſome Fibres.

Its

Its Leaves are like *Parſley*. Its Roots are binding and ſtop Bleeding.

BUPHTHALMUM. *Ox-eye* has flowers like the *Daiſie*, which are radiated, growing ſingle, and not in Cluſters like *Mother-wort*. Its Leaves are cut to the Mid-rib, and are finer than thoſe of *Camomile* and of the *Daiſy*, which are not cut at all. The *common* ſort is uſed, which is emollient and reſolvent.

BUPLEURUM. *Thorough-wax* has ſingle Leaves, which ſtand alternately along the Branches. Several ſpecies of it have Leaves like *common Graſs*: others have ſhort and broadiſh leaves. The ſtem pierces the leaves. The Species which has a broad Leaf is in uſe. The Seeds are eaten for the biteing of Serpents.

BURSA PASTORIS. *Shepherd's-purſe* has flowers compoſed of four Petals which grow along the Stalks: its Fruit is like a little flat Purſe faſtened to a pretty long Pedicle. This Plant is very aſtringent: the Decoction and the Juice of it are given to drink, or elſe Clyſters are made of it.

BUTONUS. The *flowering Ruſh* grows in the Waters. Its flowers are little Roſes, compoſed of unequal Petals, which grow in an Umbel at the end of the Stalk. The Fruit is horned, and conſiſts of ſeveral Seeds: its Leaves are like thoſe of the *Reed*. This Plant is aperitive and deterſive.

BUXUS. The *Box-tree* has Leaves which are oval, ſmall, firm, ſtiff, and without Segments. The fruit reſembles a little Pot with three Feet inverted; and the Wood is hard and yellowiſh. A Narcotic Oil is diſtilled from the Wood which is applied to an akeing Tooth: fifteen or twenty drops are given to an Epileptic Perſon, and to deſtroy Worms.

C.

CACALIA. This Plant, *Colts-foot*, *Butter-bur*, and *Populago* or *Marſh-Marigold* are very much alike as to their Leaves, which are large, roundiſh, not at all notched, and pretty much like thoſe of the *Pumpion* and of the *Melon*: but the flower of the *Cacalia* is of a purple colour, and conſiſts of ſmall Tubes like the *Groundſel*, which are in-

included in a mono-petalous, ſerrated Tube. The *Colts-foot* has a flower like the *Daiſy*: the flower of the *Butter-bur* is like that of the *Cacalia*, but it comes before the leaves: and the flower of the *Marſh-Marigold* is a ſmall Roſe like that of the *Crow-foot*. Emollient and lenitive Decoctions are made thereof.

CACHRYS. This umbelliferous Plant has rough leaves, and is ſomewhat like *Fennel*. Its Fruit is oblong, pretty large, ſpongious, and conſiſts of two Lobes one againſt the other, like thoſe of the *Acorn*, and contains one ſingle longiſh Seed.

CALAMINTHA. *Common Calamint* has leaves almoſt round, a little downy, growing by pairs. Its flowers are mono-petalous labiated Tubes, with two lips, which form verticillated Cluſters in the boſoms of the Leaves. *Balm* has not its flowers intirely verticillated. The *Common Calamint* is uſed, which is aromatic, aperitive, diuretic, and excellent for the Cholick. Clyſters, Ptiſans, *&c.* are made of it.

CALCEOLUS MARIANUS. The *Ladies Slipper.* Its leaves reſemble the Plaintain: one of the Petals of its flower is like a Slipper, from whence it takes its name: its fruit is a triangular Pillar; and its Root is large. This Plant is vulnerary, and to be applied externally.

CALTHA. The *Marigold* has a very aromatic Smell; and a radiated flower. Its fruit is a heap of Seeds placed beſide one another, of which each has the ſhape of a little Boat. Its leaves have no Pedicles. The common ſpecies is in uſe; but all, which have the ſame ſmell, have the ſame quality. The flowers are cardiac, and aperitive; they provoke the Terms, and help the Fetus forward: the ſmoak of them is received below. The flowers are taken in ſubſtance, in Decoction, and in Conſerve: they are ſpecific for the Jaundice, and an excellent Vinegar is made of them for the Plague.

CAMPANULA. The *Bell-flower* has mono-petalous flowers in the ſhape of a Bell, which grow along the Stalks. Its fruit is divided into ſeveral cavities, every one of which is pierced with a hole. This Plant has generally a milky Juice. The *common-Bell-flower* with Nettle-leaves is aſtringent; and Gargariſms are made of it. It does not twiſt about every thing like the *Bind-weed*,

CAN-

CANNABIS. *Hemp* has Leaves cut very deeply, like a Hand ſpred open: it has a Stinking ſmell, which cauſes the Head-ache. Thread is made of the Bark: its Seeds are round; and its flowers are Filaments. The Oil drawn from its Seeds is good for burns; and the ſeeds are eaten to aſſuage a Cough.

CAPNOIDES. This Species of *Fumitory* has a flower conſiſting of two Petals, which form a ſort of Cluſter, with a Pedicle, like *Fumitory*. Its fruit is a long and ſlender Pod with two Cells, which contains ſeveral ſeeds. It differs from *Fumitory*, the fruit of which is not a Pod.

CAPPARIS. *Capers* is a ſmall Shrub bearing Roſe-flowers conſiſting of four Petals, which are fixed to long Foot-ſtalks ſhooting out of the Boſoms of the Leaves. The fruit is ſomewhat like a ſmall Pear. The Leaves are round, without Angles, and grow ſingle. The fruit is eaten, which is aperitive, and creates an appetite.

CAPRIFOLIUM. The *Wood-bine* and the *Hony-ſuckle* are Shrubs, which caſt forth long Branches full of little Twigs, which twine round the neighbouring Trees: but the flower of the former is a labiated Tube with two lips, that of the latter reſembles a Hunter's Horn. Decoctions are made of the Leaves of the *Wood-bine* with which they gargle the Mouth, and waſh ſcabby Perſons. The Water made of the flowers is ophthalmic; and is given to Women in Child-Bed, to ſtrengthen them.

CAPSICUM. *Guiny-pepper* has a ſmall mono-petalous Roſe-flower; and its fruit is a large Cod with ſeveral cavities, which contain Seeds of ſuch acrimony, that they fire the Mouth when they are chewed. The Cod which contains them may be eaten without any danger, if the interior Membrane be taken away. The fruit and ſeeds put into Wine make very good Vinegar.

CARDAMINDUM. *Indian Creſs* has a poly-petalous flower, of a yellow Colour ſpotted with red, the Petals of which ſtand unequal in a Flower-cup which has a long Pedicle. This Plant climbs and twiſts it-ſelf about. Its Leaves are round, and its fruits conſiſts of three Capſules. It is deterſive, aperitive, and antiſcorbutic. The Flower is pickled in Vinegar to eat.

CAR-

CARDAMINE. Ladies-Smock or *Cuckow-flower.* Mr. *Ray* ſays, that this Plant has Flowers conſiſting each of four Petals in form of a Croſs; that its fruits are Pods with two Cells, which being ripe, the Valves twiſt and roll themſelves up ſpirally, and caſt their Seeds on all ſides. This Plant is antiſcorbutic, and brings away Gravel.

CARDIACA. Mother-wort has Leaves cut very deeply at the end. Its flower is a labiated Tube with two lips: and the Flower-cup is filled with four triangular Seeds. A water is drawn from this Plant; Decoctions are made of it, and Infuſions in Wine, which are diuretic, cordial, and ſerviceable to Women in hard labour.

CARDUUS. The Flower-cup which ſuſtains the little flowers of the *Thiſtle* is prickly, and its flower is a heap of ſmall Tubes. The Leaves are generally prickly. The Root is diuretic. *Common-way-Thiſtle* creeps upon the ground, has ſmall heads without prickles, and Leaves which have none; and its Roots are black. A Juice proceeds from the ſtalks which coagulates, and which being carried in the Pocket, cures the Piles. It is a Species of *Cnicus.*

CARLINA. The *Carline-Thiſtle* reſembles the *Thiſtle*: but its flower conſiſts not of Tubes, but of ſmall Petals. The Flower-cup is prickly, and ſupported by the Leaves of the Plant. This umbelliferous Plant is ſudorific, and aperitive; and kills Worms.

CARPINUS. The *Horn-beam* is a Tree, the Leaves of which are wrinkled or chaneled. The flowers are ſmall Petals, diſpoſed in Scales and Feſtons, under which grow ſmall winged fruits. Walks in Gardens are made of this Tree. The Leaves are aſtringent.

CARTHAMUS. Baſtard-Saffron emits onely one round Stalk, and reſembles a *Thiſtle*; but its ſeed is not downy, which diſtinguiſhes this Plant from all which are like it: and its flower, which is a Head, is not prickly like the *Thiſtle*, and is ſupported by the Leaves of the Plant. Purgative Lozenges are made of the Seeds.

CARVI. The Leaves of this umbelliferous Plant are cut very fine, and as it were by pairs along the midribs. Its Roots are white Lumps, ſeldom yellow, and are eaten. The Seeds alſo are eaten, to increaſe Milk, and to expell Wind.

CARYOPHYLLATA. *Avens* has a flower compoſed of ten Petals: its fruit is an heap of Seeds which have long tails. The Leaves grow by pairs upon the mid-rib, intermingled with ſmall leaves: the Roots are aromatic. The Flower-cup which ſuſtains the Flower, is cut into ten unequal parts. Decoctions are made of the Roots to be drunk; the Powder of them is taken in Subſtance: they are cephalic, cordial, and diſſolve clotted Blood.

CARYOPHYLLUS. The *Pink* differs from the *Campion*, by its ſcaly Flower-cup, which that of the *Campion* has not. Topical Remedies are made of the flowers for the Head-ache, and a Conſerve likewiſe which is eaten: of the Juice is made a Syrup for the Epilepſy, and a Vinegar againſt the Plague.

CASSIA. This Tree has leaves like the *Walnut-tree*; its flower is a ſmall Roſe-flower; and its fruits are large, round, and hollow Cylinders, filled with a purgative Pith. *Caſſia* taken in Whey is an excellent remedy for a Looſeneſs.

CASSIDA. *Skull-cap* has ſomewhat in it like *Arch-angel.* It is ſo called, becauſe it is like a Cap or Helmet; and its flower is a crooked Tube, which is labiated. This Plant is vulnerary, and ſtops a Looſeneſs.

CASTANEA. The *Cheſnut-tree* is a great and ſtately Tree, which has large ſerrated Leaves: its fruit is fleſhy, having a prickly Cup like a Bur, which contains *Cheſnuts.* Of the flowers, which are Cat-kins, a Conſerve is made, which is emetic. The Nuts are aſtringent; and the Shells ſtop the Whites.

CATANANCE. Mr *Ray* ſays, that the Flower of this Plant is a head almoſt like that of the *greater Centaury*, being compoſed of Petals which are fiſtulous at the lower end. The Seeds are crowned with five ſmall leaves. That Species the leaves of which are notched like the *Bucks-horn Plantain* is aperitive.

CATARIA. *Cat-mint* has hoary leaves like thoſe of the *great-Nettle*, which are aromatic, and have a very ſtrong ſmell. The Flowers are labiated Tubes. The other Species of *Mint* are not white. Ptiſans are made of it to provoke the Terms, and to help Delivery: it is vulnerary.

CAUCALIS: Baſtard-Parſly. This ſort of wild Panacea is an umbelliferous Plant, the leaves of which are cut very narrow: its Flowers are large Tufts in an Umbel at the end of the Stalks: its ſeeds are oblong, and deeply chaneled, which ſtick to ones Cloaths, becauſe they are furniſh'd with Prickles.

CEDRUS. The *Ceder-Tree* and the *Juniper-Tree* bear Berries which contain three ſeeds: but the former has Leaves like the *Cypres.* Decoctions made of the Wood are ſudorific.

CELTIS. The *Lote-Tree* is a Tree, the leaves of which are pretty broad and rough, hoary on the lower ſide, longer than thoſe of the *Elm,* and ſerrated. Its Flowers are Roſe-Flowers, and its fruits hard Berries, each of which contains one ſingle Seed. The fruits and the Leaves are binding.

CENTAURIUM MAJUS. The *greater Centaury* reſembles the *Artichoke* in its Leaves and its Flowers: but the Heads are not eaten, as *Artichokes* are. Its Root is large, fleſhy, vulnerary, aſtringent, and aperitive.

CENTAURIUM MINUS. Mr *Ray* ſays, that the Flowers of the *leſſer Centaury* are oblong tubes, cut into five Segments on the top, and growing on the tops of the branches, which are numerous. Its fruit is oblong, very ſmall, having two ſeminal Cells which contain many minute Seeds. This Plant is very bitter. That Species is in uſe which has purple Flowers. It is an excellent Febrifuge: Decoctions are made of the Herb, which are drunk, or of the Powder which is given in ſubſtance.

CEPA. The *Onion* differs from the *Garlic* and the *Leek,* by its Leaves and its Stalks, which are hollow; whereas thoſe of the two latter are flat. The *Shalot* has hollow Leaves, but its Roots conſiſt of ſeveral Tubercules.

CERASUS. The *Cherry-tree* has a Roſe-Flower, its Fruits are *Cherries,* which grow ſingle at the end of a Pedicle, and contain one ſingle Stone altogether round. The Leaves are intire. *Cherries* are moiſtening, cooling, and looſening.

CERINTHE. Hony-wort has Leaves of a Sea-green colour marbled with white: the Flowers are ſmall, mono-petalous, hollow Cylinders; and the fruit is compoſed of two roundiſh Husks which have two Cells. The Juice is good for the inflammations of the Eyes.

CHÆROPHYLLUM. *Chervil*, *Parſly*, and *Hemlock*, are umbelliferous Plants, which are alike: but *Hemlock* has a ſtinking ſmell. Its ſeeds are long, ſharper at one end than at the other, and without furrows. Cataplaſms are made of it, which are applied to the Reins, for the Stone-Cholic; and to the lower Belly, to provoke Urine.

CHAMÆCERASUS. The *Dwarf Cherry-tree* reſembles the common *Cherry-tree*; but its fruits grow by pairs at the end of a Pedicle, and contain ſeveral ſeeds. Its Flowers are labiated Tubes with two lips, which grow by pairs. The *Cherries* which are ſpotted with two black Specks, purge upwards and downwards.

CHAMÆDRYS. Mr. *Ray* ſays, that the *Common Germander* has Leaves cut almoſt like *Oak-leaves*: it trails along the Ground, and its Roots creep. The Flowers are mono-petalous Tubes, lengthened into lips, and grow in the boſom of the Leaves. A Tea made of the Leaves is drunk for the Gout: they are deterſive and vulnerary.

CHAMÆLÆA. The Leaves of this Shrub are long and deciduous. Its Flowers are Tubes divided in three parts. The fruits are triagonal Berries. It is a violent Purge. The Leaves applied to old Ulcers, cleanſe them. They are uſed onely externally.

CHAMÆMELUM. Mr. *Ray* ſays, that *Camomile* has Leaves cut very narrow. Its Flowers have a ſtrong Smell, and are like thoſe of the *Daiſie*. The *Common Camomile* is emollient, and diſpells Wind. Cataplaſms, Fomentations, and Clyſters are made of the Flowers.

CHAMÆNERIUM. Mr. *Ray* ſays, that this Plant bears a ſmall Roſe-Flower conſiſting of four Petals, which grows at the end of a long Pod, which opens in four parts when it is ripe, and ſhews four rows of Seeds. The Leaves are vulnerary.

CHAMÆPITYS. *Ground-pine* has very narrow, whiteiſh Leaves, and thoſe of the common ſort are cut in three at the end. Its Flowers are ſmall Tubes, which in lengthening form a lip, and are ſituated in the boſom of the Leaves, which ſtand oppoſite in pairs. That Species is uſed which has yellow Flowers, a Decoction of which in Wine is drunk for the Gout and the Stone-Cholic.

CHE-

CHELIDONIUM. The *Greater Celandine* yields a yellow Juice: its Leaves are cut along the Rib, and the laſt is divided into three. It has a yellow Flower, conſiſting of four Petals; and its fruit is a Pod filled with round Seeds. The Juice thickened is purgative and diuretic. It is drunk for the Ulcers of the Lungs; and it is put into the Eyes to cleanſe their Ulcers.

CHENOPODIUM, This Species of *Orache* is called *Gooſe-Foot,* becauſe the Leaf is broad, and cut almoſt like the Foot of a Gooſe. The Empalement of the Flower is like a Star; and as it dries up, the Segments turn inward. It is dangerous.

CHONDRILLA: Gum-Succory. This Species of *Succory* emits from its Root large Leaves, like thoſe of the *Wild Succory,* cut very deeply. The Stalk is prickly toward the bottom; and the Leaves of the branches are long and very narrow. It blows like *Succory,* but the Seeds of *Succory* have Angles. It yields a milky Juice. It is aperitive.

CHRISTOPHORIANA: the Herb Chriſtopher. This Species of *Aconite* ſhoots forth branches like a Shrub: its leaves are large, divided, and ſerrated. The Flowers are ſmall Roſes conſiſting of four Petals in a ſpike; and the fruits are Berries which grow in black cluſters when they are ripe. Scabby Perſons are rubbed with them: but they muſt not be uſed internally.

CHRYSANTHEMUM. This Plant blows with a radiated Flower like the large Species of the *Daiſie*; but its Flowers are yellow, and its Leaves jagged. It is vulnerary.

CHRYSOSPLENIUM. Golden Saxifrage has round, downy Leaves, pretty much like thoſe of *Ground-Ivy*; but they have not the ſame ſtrong ſmell. The Flower is a ſmall mono-petalous Roſe-Flower; and the Fruit has two horns.

CICER. Mr. *Ray* ſays, that the Flower of this Plant is a Cluſter, and its fruit a kind of blown bladder, containing a ſeed altogether like a Ram's head. The Decoction of its ſeeds is aperitive and emollient; and Clyſters are made thereof for the Stone-Cholic.

CICHORIUM. Cichory or *Succory* has Flowers like thoſe of the *Lettuce,* which are placed on the ribs of the branches.

es. The Seeds are angular. It generally yields a milky Juice. The Flowers and the Roots are conſerved: a Syrup is made of the Juice which is good for an Ague; and cooling Clyſters are made of the Decoctions of the whole Plant.

CICUTA. Hemlock. This umbelliferous Plant has leaves cut very fine like *Parſly*: the Stalks are hollow, and the whole Plant ſtinks very much. Its ſeeds are round. It is an excellent Remedy for ulcerated Cancers, and for Tumors which are to be diſſolved.

CICUTARIA. This Plant differs from *Hemlock* by its ſeeds, which are large, long, arched, and chanelled.

CINARA. The *Arichoke* differs from the *Thiſtle*, onely in that its Head is more fleſhy, and is eaten. It is hot.

CIRCÆA. This Plant reſembles a ſmall *Night-ſhade*; but the Flower and its Empalement conſiſt each of two Petals onely. The fruit is pyramidal, and has two cavities. It is vulnerary, and is externally applied.

CIRSIUM. This Plant is like a large *Thiſtle*, but its head is not prickly, and its leaves are garniſhed with hairs on the edges. That Species which has a Root like the *Aſphodel* is applied to pains to aſſuage them.

CISTUS. This Plant reſembles a ſmall *Roſe-buſh*, but is not prickly; and blows like that, but its fruit has ſeveral Cells; and the *Roſe-buſh* is a Shrub. It is aſtringent.

CITREUM. The *Citron-Tree* is like the *Orange-tree*, but its leaves are not always cut in the ſhape of a heart, as thoſe of the *Orange-tree*. The *Citron* is oblong, the *Orange* round, and the Taſt different. *Citrons* are very cordial.

CLEMATIS. The branches of this Plant are long, flexible, and full of Tendrils like the Vine, and grow in Hedges. The Flower is a ſmall Roſe-Flower without an Empalement; and the fruit is a heap of Seeds which have long tails. Decoctions are made of that Species which has broad leaves, with which ſcabby Perſons may be rubbed.

CLIMENUM. This Plant reſembles *Peas*, but its ſtalks have a membranaceous Wing all along, and are flat. The leaves grow by pairs along the rib, and likewiſe ſingle; and it has Tendrils.

CLI-

CLINOPODIUM. *Wild Field-Baſil* is aromatic. Its flowers are ſmall labiated Tubes with two lips, which grow in Wherles round the ſtalk, having four oblong ſeeds in the Flower-cup. The common Species provokes the Terms.

CNICUS. This Species of *Thiſtle* has not a prickly Head, as the *Thiſtles* have; and its Flower is incompaſſed with the Leaves of the Plant. It is altogether like the *Baſtard-Saffron*, but its Seeds are downy. The *Bleſſed Thiſtle* is a *Cnicus*; its Leaves are downy, and ſudorific: it is a Febrifuge.

COCHLEARIA. Mr. *Ray* ſays, that the flower of *Scurvy-graſs* conſiſts of four Petals. Its leaves are fat, thick, ſucculent, and round; and its Stalks are low. Its fruit is round, and has two Cells which contain round ſeeds. Decoctions are made of this Herb, which are antiſcorbutic.

COLCHICUM. This Plant is like the *Lilly* by its Leaves, but its Root conſiſts of two Tubercules, which are fleſhy, not ſquamous; and its Flower is a Tube cut at the top, which proceeds immediately from the Root, which ſort of Tube the *Lilly* has not. The Root of it is applied to the Gout.

COLUTEA. The Leaves of the *Baſtard Sena* grow by pairs all along a rib, like our large *Acacias*, and its Flowers are likewiſe Cluſters; but the Fruit of the *Baſtard Sena* is a bladder. The Leaves of this Species of *Sena* purge, but a double quantity muſt be given, as much more as the common Doſe of *Sena*.

CONVOLVULUS. *Bind-weed* climbs and twiſts it-ſelf about thoſe things which are near to it. It has generally a milky Juice. The Flowers are mono-petalous Bells, not cut in ſegments; and the fruit is divided into ſeveral Cells. It is deterſive.

CONYZA. Mr. *Ray* ſays, that *Flea-bane* has Leaves which have a ſtrong ſmell. Its Flowers are heads compoſed of Tubes, like the *Knap-weed*, in a ſquamous and tubulous Empalement. Its ſeeds are downy. A Decoction made of it provokes Urine, and is good to rub ſcabby Perſons.

CORALLINA. *Coralline* or *Sea-Moſs* grows at the bottom of the Waters: it is divided into very fine branches, which are ſometimes as it were jointed,

and it ſticks to Flints and Stones, near the Sea-ſide. It ſtops a Looſeneſs.

CORALLOIDES. Theſe Plants are kinds of Muſhrooms, which have no head, but grow out of the Earth in points like Fingers, all faſtened to the ſame Foot. There are ſome which are hard.

CORALLUM. *Coral* reſembles a Shrub which has no Leaves, and is hard as a Stone. There are ſeveral ſorts of it, as red, white, pale, *&c.* It grows in the Sea. It is aſtringent, and the Doſe is half a Dram taken in Powder.

CORCORUS. The Leaves of *Jews-Mallows* grow ſingle at every joint of the Branches. Its Flower is a Roſe-flower; and its fruit is cylindrical, having five Cavities. It is emollient like *Mallows.*

CORIANDRUM. Mr. *Ray* ſays, that *Coriander* is an umbelliferous Plant, the Leaves whereof which grow at the lower end of the Stalk are cut in broader pieces than thoſe which grow towards the top; and that its ſeeds are little Balls. Its Flowers are ſmall Roſe-Flowers, which grow in Umbels at the end of the Branches. It is cordial and carminative. Sugar-Plums are made of it, and the Powder of it is put into Clyſters.

CORINDUM. This Plant produces *Peas* which are marked with a Heart, contained in a kind of Cod. The Flowers are Roſe-Flowers.

CORNUS. The common *Cornel-tree* has Leaves like the *Buck-thorn.* Its Flowers are ſmall yellow Roſe-Flowers, which form an Umbel, as well as its fruits, which are hard Berries containing ſtones with two Cavities. Both the Leaves and the Fruits are aſtringent.

CORONA IMPERIALIS: Crown-imperial. This Species of *Lilly* has a large Cluſter of Leaves on the top of the Stalk. Below this cluſter there are ſeveral Plumes of Flowers like *Lillies* faſtened all round the Stalk, on which account it is called *Crown-imperial.* Its Root is a large Tubercule. It is emollient.

CORONA SOLIS. The *Sun-flower* grows very high, and has very large, yellow, radiated Flowers. Its leaves are large, broad, intire, angular, and very rough. *Starwort* is ſmall.

CORO-

CORONILLA. The leaves of this Shrub grow by pairs all along a rib: its fruits are pods compoſed of ſeveral Joints: and its flower is a Cluſter. Cataplaſms are made of the Flowers, which are emollient and reſolvent; and Clyſters likewiſe are made of them.

CORONOPUS: Bucks-horn Plantain has Leaves very deeply cut, which the other Species of *Plantain* have not; but in all other reſpects they are alike. It is very reſtringent and vulnerary.

CORYLUS. The *Filberd-tree* has round, intire leaves. Its fruit is a ſmall Nut covered with a membranous Husk, and open at one end, where the fruit appears. Its Catkins ſtop a Looſeneſs.

COTINUS. This is a Shrub, the leaves of which are almoſt round, elegantly fibred, without Segments, and faſtened to very long Pedicles. The ſeeds reſemble *Lentils*, and grow in cluſters faſtened to long fine downy Foot-ſtalks, which are like ſmall Feathers. This whole Plant is very aſtringent and cooling; and Gargariſms are made of it.

COTULA: May-weed. This Species of *Camomile* differs from the others in that it has a ſtinking ſmell, and its ſeeds are cut hollow like a Heart, and bordered with a Membrane. It is deterſive.

COTYLEDON. Navel-wort has commonly fat leaves, full of Juice, and hollow like a Baſin. Its Roots are tuberous and fleſhy. Its Flower is a Tube cut on the top, and its ſeeds are ſmall husks which grow in a heap. It is given both internally and externally for Inflammations, becauſe it is cooling.

CRAMBE. The *Sea-Cole-wort* is altogether like the common *Cole-wort*, but its Leaves are more blueiſh, and its Fruits are Berries; whereas the common *Cole-wort* or *Cabbage* has Pods. The Seeds are taken in powder to kill Worms, and the Leaves externally applied are very vulnerary.

CRATÆGUS. The *common Wild-Service* is a Tree which bears ſmall Medlars, about the bigneſs of Berries, furniſhed with ſeeds. It blows like the *Pear-tree*, and has Leaves notched like the *White-thorn.*

CRITHMUM. Sampire has Stalks like the common *Fennel*, but its Leaves are broader, fatter, and thicker, divided into three parts at the end, and have a very ſtrong ſmell.

ſmell. The Flowers are ſmall Roſe-Flowers, which grow in an Umbel, at the end of the branches, like *Fennel*; but the Seeds are flat. It is very diuretic, and given in a Ptiſan provokes the Terms.

CROCUS. *Saffron* has very narrow Leaves, and very long like thoſe of *Common Graſs*; but they have throughout the whole length a white Line: and the Roots have two Tubercules one upon the other. The Flower is a mono-petalous Tube, cut on the top, and faſtened to a long Pedicle which proceeds from the Root. That which is cultivated is cordial, pectoral, ſoporific, aperitive, and anodyne.

CROTALARIA. This ſort of *Broom* has not flat Pods like the common Species, and its Leaves grow ſingle. Thoſe of the *Reſt-Harrow* are ſerrated, and diſpoſed by three at a place upon one Pedicle. The ſeed of the *Crotalaria* is purgative.

CRUCIATA. *Croſs-wort* has but four Leaves in the form of a Croſs, at every joint of the ſtalks. The *Rubia* or *Madder*, the *Gallium* or *Cheeſe-rening*, and the *Aparine* or *Cleavers* have more. That Species is uſed which blows yellow, and is applied to Ruptures.

CUCUBALUS. Mr. *Ray* ſays, that this Plant is like a great *Chick-weed* in its Leaves. The fruit is a ſoft Berry, included in a ſort of membranous Bladder, which contains ſeeds ſhaped like a Kidney. The Flower reſembles that of the *Campion.* A Decoction of this Plant ſtops bleeding.

CUCUMIS. The *Cucumber* and the *Musk-melon* are alike, but the Leaves of the former are not not ſo round as thoſe of the latter, and are more rough; and the Fruit has Tubercules, and is not ribbed as the *Musk-Melon* generally is. The Fruit is very cooling, and the ſeed is one of the four Cold Seeds.

CUCURBITA. The *Gourd*, the *Musk-Melon*, and the *Pumpion*, &c. reſemble one another; but the Leaves of the *Gourd* are ſoft and very ſupple, and the Flowers white; whereas the Leaves of the reſt are rough, and their Flowers yellow. The ſeeds of the *Gourd* have two little horns at one end, being cut in the ſhape of a Heart. The Seed is one of the four Cold Seeds.

CUMINOIDES. This Plant has a Roſe-flower, the Petals of which are fringed, and the Seed is oblong. The

Leaves

Leaves are placed oppoſitely by pairs along a rib, like thoſe of the *Pimpernel.* It provokes Urine.

CUPRESSUS. The *Cypres-Tree* has Leaves diſpoſed one above another, in the ſame manner as Scales are placed, about the bigneſs of the tips of Pins: and its fruits conſiſt of ſmall ſcales. The ſeeds of it are eaten to ſtop a Looſeneſs. See *Abies.*

CUSCUTA. Dodder has no Leaves, it has onely Branches or Threads which twiſt about the neighbouring Plants, upon which they take Root to draw from them their Nouriſhment. The Flower is a ſmall mono-petalous Vaſe; and the fruit is very ſmall and roundiſh.

CYANUS. The Leaves of the *Blue-Bottle* are long and narrow like thoſe of the *Pink*, they are downy, and not blueiſh. The Flowers grow at the end of the Branches and have ſomething of the *Pink*, but their Petals are Tubes in the lower part, which widen towards the upper, and are cut into long ſegments. This Plant grows commonly among Corn. A Decoction of the Flowers in Wine provokes the Terms: a Dram of the ſeeds purges: the Water is a Collyrium.

CYCLAMEN: Sow-bread. The Petals of the flower are turned back on the top, and proceed immediately from the Root, as well as the Leaves, which are almoſt round, and marbled with green and white on the upper-ſide, being on the other of a purpliſh colour. The Root is a large round Knob. The Fruit is round. The Root applied to Tumours diſſolves them.

CYDONIA. The *Quince-Tree* and the *Pear-Tree* are altogether alike, in their flowers and their fruits: but the Leaves of the former are generally cottony, whereas thoſe of the latter are ſmooth, and of a bright green. The ſmell of the *Quince* is very different from that of the *Pear:* and the one is cottony, and the other ſmooth. *Quinces* eaten after any manner are a moſt excellent Remedy to ſtop a Looſeneſs after purging.

CYNOGLOSSUM. Hounds-Tongue has generally long and broad Leaves like *Monks-Ruhubarb*, ſoft to the touch, and of a grong ſmell. The fruit conſiſts of four ſeeds ſomewhat flat and cleaving together by the ſides. The flower is a mono-petalous Tube cut in five ſegments.

All

All the parts of this Plant are narcotic and very aſtringent.

CYPEROIDES. The Leaves of this Plant are long like *Graſs*, and chanelled: the ſtalk has no joints: it has a Spike on the top, and others lower, in which there are triangular ſeeds: its Roots are large. This Species of *Cyperus-Graſs* grows in the Waters.

CYPERUS. Cyperus-Graſs grows in watry places: its Leaves reſemble thoſe of *common Graſs*: its Stalks are triangular, at the end of which are ſquamous Cluſters: its ſeeds are triangular; and its Root an oblong Tubercule. The Roots are diuretic. The Country-people of *Bretagne* in *France* boil them in water to give it a taſte.

CYTISO-GENISTA. This ſort of *Broom* differs from the others by its Leaves, which grow ſingle, and three at a place upon one Pedicle.

CYTISUS. This kind of *Broom* has its Leaves by three at a place upon one Pedicle, and not at all ſingle. The Pods of it are black and very flat. The flowers when in bud are preſerved with Vinegar, and are good to ſtop Vomiting.

D

DAMASONIUM. The *Water-Plantain* grows in the water: its Leaves are altogether like thoſe of the *Great broad-leaved Plantain*; but the flowers are ſmall Roſe-flowers conſiſting of three Petals, which form an Umbel at the end of a long ſtalk; and the fruit is ſhaped like a Star. The Flowers and the Fruits of the *Common Plantain* are like the tail of a Rat. The *Water-Plantain* is applied to Womens Breaſts to dry up their Milk.

DAUCUS. The Leaves of this Plant are cut very fine: it ſhoots up long ſtalks, at the end of which grow Roſe-flowers in an Umbel, which as they ripen, form a ſort of Birds-neſt. The ſeeds are long and garniſhed with a row of Hairs. They are aperitive.

DELPHINIUM. The *Larks-Spur* has Leaves cut into long ſegments, which form as it were a Bird's foot: one of the Petals of the Flower, has a long hollow Tail, which receives another. The fruit is compoſed of three long, black Seeds. That which grows in Gar-

dens

dens is uſed; which is very vulnerary, taken both inwardly and outwardly.

DENS CANIS. Mr. *Ray* ſays, that this Species of *Satyrium* has a Flower like a ſmall *Lilly*, but the Petals curl up and turn back. The Roots are fleſhy, and ſharp at one end like a Dog's Tooth, from whence it takes its Name. The Root is emollient and reſolvent.

DENS LEONIS. *Dandelion* has commonly its Leaves cut on both ſides: its Flowers are like thoſe of *Cichory*, which grow at the end of a long, ſtrait, hollow, and very weak Stalk, without Leaves. The Seeds are pretty long, ſet upon a *Placenta*, and have a Down upon them, by the help of which they are carried about in the Air, when they are looſened from the ſtalk. This Plant is eaten: Ptiſans and Decoctions are made thereof; it being diuretic.

DENTARIA. *Tooth-wort* has a Flower compoſed of four equal Petals, like the *Stock-gilly-flower*: its fruits are Pods: its Stalks have no branches; and its Root is fleſhy, dented, and as it were ſquamous.

DIGITALIS. *Fox-glove* has Flowers in the ſhape of a Thimble, which hang downward, and grow in form of a Pyramid all round the ſtalks: the Leaves ſtand alternarely; and its fruit has two Cells. The common Species is deterſive.

DIPSACUS. *Fullers-Thiſtle* or *Venus's Baſin* produces large hollow Stalks; round which at proper diſtances there ſeem to grow Leaves by pairs, but in reality they grow ſingle, and form a kind of Boat which receives Water: theſe Leaves are not prickly on the edges, but very much all along the Mid-rib. The Flower is a heap of Tubes all round a head in the ſhape of an Egg: when they fall off, one may ſee ſeveral Niches in the head. The ſeeds are furrowed. The Root is aperitive; and being boiled in Wine is applied to the *Fiſtulas* in *Ano*.

DORONICUM. *Leopard's-Bane* has a ſmall yellow radiated Flower, in an Empalement extremely wide, and ſlit down to the bottom in ſeveral pieces: it grows ſingle at the end of the Branches. The other Plants which blow like it have not this ſort of Empalement. The Roots of it are uſed, which are cordial. The common

mon Species has downy Leaves like the *Cucumber*, as well as a round furrowed ſtalk: its Roots are like a Scorpion.

DORYCNIUM. The Leaves of this Plant are ſimple, and cut to the very baſe; its Flower is a Cluſter; and its fruit a Cod which contains one ſingle Seed. That ſpecies is uſed which is all white, being deterſive and aſtringent.

DRACUNCULUS. The Leaves of *Dragons* are cut deep, even to the Foot-ſtalk, into ſeveral large pieces: in other reſpects it is altogether like *Wake-Robin* or *Cuckow-pint* as to its productions. The great Species is uſed, which is deterſive: the Stalk is full of ſpots like a Serpent's Skin.

E.

ECHINOPUS. The *Globe-Thiſtle* has for its flower a large, round head, garniſhed with a heap of ſmall Tubes, each of which has a ſmall Empalement: after they are fallen off, there appears a large, round head, ſet thick with prickles diſpoſed like Rays. It is aperitive: a Ptiſan made of it forces away Gravel. That Species is uſed which has white and downy ſtalks.

ECHIUM. *Vipers-Bugloſs* has rough Leaves, and reſembles *Bugloſs*: its flowers are in the ſhape of a Tube, and have ſegments, the upper prominences of which extend farther than the lower; and the Flower-cup contains four ſeeds. It is moiſtening and cooling, and therefore Ptiſans and Clyſters may be made of it. That Species which is in uſe is marked with black ſpots, and is downy.

ELICHRYSUM. This Plant has for a flower a ſmall head compoſed of little Tubes inchaſed in a ſquamous Empalement. glittering as if it were gilt with Gold or Silver. The flower being gathered never fades. That Species, which is called *Stœcas Citrina anguſtifolia*, given in Ptiſans, provokes the Terms, kills Worms, and diſſolves coagulated blood. Its ſtalks are white and downy.

EMERUS. This Shrub is pretty much like the *Baſtard Sena* for its Leaves grow by pairs along a rib; but it bears thin

thin Pods, which contain round and long ſeeds. Its flower is a Cluſter. The fruits of the *Baſtard-Sena* are bags filled with Air. The flowers of the *Emerus* are a little laxative.

EMPETRUM. This Shrub has the face of *Heath*; but its flowers are onely Filaments, and its fruits Berries. The flower of *Heath* is a little Bell.

EPHEDRA. This Plant reſembles the Tail of a Horſe: for its branches are fine, long, round, and compoſed of pieces jointed at the ends. Its little flowers are diſpoſed one above another along the branches, in ſmall cluſters upon a ſlender foot-ſtalk. It is not rough like the *Horſe-tail.* It is aſtringent, and good to ſtop a Looſeneſs.

EPHEMERUM. The Flower and the Empalement of this Plant have each but three Petals: its fruits are oblong, having three Cells; and its Seeds are likewiſe pretty long.

EPIMEDIUM. Barren-wort has branches which divide into three, each of which is ſubdivided into three more, and at the end of each branch there are three large round leaves faſtened to a Pedicle: the flowers have four Petals. The fruits are Pods which contain roundiſh ſeeds. It is cooling.

EQUISETUM. The *Horſe-tail* has branches compoſed of ſeveral hollow Tubes, jointed one in another. The Leaves are very ſmall, diſpoſed in Rays round the Knots. It is rough. The whole Plant is aſtringent.

ERICA. The *Heath* is a little Shrub, the leaves of which are rough, and reſemble thoſe of the *Cypres*: its flowers are like little bells conſiſting of one Petal, faſtened to ſhort Foot-ſtalks. It grows upon Heaths. An Oil is made of the flowers, which is excellent for the Tetters of the Face.

ERUCA. Rocket has Leaves of a ſtrong and diſagreeable ſmell; the Flowers are compoſed of four Petals; and the fruits are Pods which contain two rows of round Seeds. All the Species which are acrid, are antiſcorbutic.

ERUCAGO. This Species of *Rocket* is diſtinguiſhed from the former by its Fruit, which is not a Pod, but a ſort of Club.

ERVUM.

ERVUM. This Plant has the face of *Lentils:* for its Leaves are ranged by pairs upon a Rib, its Flower is a Cluſter, and its fruit a Pod; but it is waved on each ſide, which the *Lentil* is not. Nurſes eat the ſeeds of it to increaſe their Milk.

ERYNGIUM. The *Eryngo* differs from the other *Thiſtles* by a Crown of Leaves which is below the Head, which ſupports it; and its Flowers are ſmall Roſe-flowers with Petals bent inwards. The Flowers of this ſort of *Thiſtle* are Tubes. Decoctions are made of the Roots, which are very aperitive and diuretic. The Root conſerved is good for ſluggiſh Husbands.

ERYSIMUM. Hedge-muſtard has a Flower compoſed of four Petals: its fruits are Pods with two rows of round, acrid Seeds. The Pods are much ſhorter than thoſe of *Rocket*, and clapped cloſer together, diſpoſed upon long, fine Branches, which this Plant caſts forth on all ſides. The common Species is uſed; the Seed of which is eaten by thoſe who are afflicted with an Aſthma and with the Scurvy, and it makes them ſpit.

ESCHARA is a large Leaf, intirely flat like a Sheet of Paper, and pierced with a great number of holes, which grows in the Sea upon a ſort of Ruſh, which is its Root. It is aſtringent.

EUONYMUS. The *Spindle-Tree* is a Tree, the fruits of which have four horns like a Scholar's ſquare Cap. They purge upwards and downwards.

EUPATORIUM. Hemp-Agrimony has Flowers like thoſe of the *Groundſel*; their Flower-cups are reddiſh or gridelin. Its Stalks are generally exactly round. The Leaves of the common ſort are like thoſe of *Hemp*. The Decoction of its flowers provokes the Terms; that of the Roots purges upwards and downwards. This Plant is very vulnerary.

EUPHRASIA. Eye-bright has Leaves which are indented and veined. Its flower is a mono-petalous Tube, cut into two Lips, coming forth out of the boſoms of the Leaves, and ſpotted. The fruit has two Cells. It is ophthalmic. It is preſerved, and the Infuſion of it in Wine is drunk to reſolve the Humours.

F.

FABA. The *Bean* has papilionaceous Flowers which grow out of the boſoms of the Leaves: its fruits are large Pods: the Stalks are ſquare, ſtrong, and hollow: and the Leaves grow by pairs on the ſtalk, which ends in a Filament. Reſolvent Cataplaſms are made of the Meal of Beans.

FABAGO. Bean-Capers, has fat, bitter Leaves, growing by pairs upon a Pedicle, ſo that they reſemble the two wings of a Butter-fly. They grow likewiſe by pairs along the Stalks. The flower is a ſmall Roſe-flower; and the fruit a five-cornered Cylinder.

FAGO-PYRUM. Buck-Wheat produces three-cornered Seeds, and its Roots are fibrous. Reſolvent Cataplaſms are made of the Meal.

FAGUS. The *Beach-tree* has Leaves which are membranous, coriaceous, and very ſmall, not furrowed, which diſtinguiſhes it from the *Horn-Beam.* Its ſeeds are triangular. Gargariſms are made of the Leaves which are aſtringent.

FERRUM EQUINUM. Horſe-ſhoe has for its flower a Cluſter: its Pods are compoſed of pieces in the ſhape of half-Moons jointed together, and furniſhed with ſeeds likewiſe in the ſame ſhape. It is vulnerary.

FERULA. This is an umbelliferous Plant which grows very high, and has large Stalks like *Hem-lock,* which are filled with a Pith which preſently takes fire. The Leaves reſemble *Fennel.* The Seeds are large, intirely flat, and thin as a little leaf of a Book. The female kind is uſed: the Decoction of its Pith ſtops the Bloody-flux, and the head-ache. The ſeed of it expells Wind.

FICUS. The *Fig-tree* is a Tree without flowers: its fruits are like ſmall ſoft *Pears,* furniſhed with an infinite number of little ſeeds: its Leaves are large, and have moſt commonly a milky juice. Fat Figs applied to Tumors ſoften them, and make them break, eſpecially thoſe of the Mouth.

FILAGO. This Plant is generally white, ſoft to the touch, and cottony. Its flowers are like thoſe of the *Elichryſum,* but their Empalements are not ſo bright in

Colour as thoſe. The Water of it is applied to cancerous Tumors.

FILIPENDULA. Common Drop-wort has very ſmall leaves, which grow as it were by pairs along a Rib, between which there are ſome ſmaller. Its Flower is a ſmall Roſe-flower; and its fruit a heap of little ſeeds ranged along beſide one another. The whole Plant is good for the Piles.

FILIX. The Leaf of *Fern* is compoſed of ſeveral ſmall leaves all along a large Rib, and which are cut down to a ſmall Rib. It has no Flowers; and its ſeeds ſtick cloſe under the Leaves. The Decoction of its Roots is drunk to open Obſtructions of the Bowels.

FILICULA. This Plant is ſmaller than the common *Fern.*

FOENICULUM. The Leaves of *Fennel* are only as it were Filaments ſupported on a Rib: the ſtalks are large and hollow; the Flowers are ſmall Roſe-flowers, which grow in an Umbel at the end of the branches; and the ſeeds are pretty long. The ſeeds are eaten to expell wind; and they are put into Clyſters as Anis-ſeed is. *Fennel*-water is ophthalmic.

FOENUM GRÆCUM. Fenu-greek has a papilionaceous Flower: its fruit is a flat Pod reſembling a Horn, furniſhed with ſeeds; and the Leaves grow three upon a Pedicle, like the *Tre-foil.* Cataplaſms are made of the Meal of its ſeeds, which are emollient and reſolvent.

FRAGARIA. The *Straw-berry* Plant has its Leaves three upon a Pedicle: its branches are long, flexible, and creep on the Ground: it has a ſmall Roſe-flower; and its fruit reſembles a *Mulberry.* The whole Plant is diuretic and aperitive; and Ptiſans are made of it. The Fruits exhilarate the heart.

FRANGULA. The *Black Alder* has Leaves like the *Alder-tree,* but ſtronger: it bears black Berries; and its Flowers are ſmall Roſe-flowers: thoſe of the *Alder-tree* are Catkins, and its fruits are ſquamous. The green Bark of this Tree is emetic: the Decoction of it is good to rub ſcabby perſons: the Bark being ſear purges.

FRAXINELLA. This Plant has its Leaves by pairs along a Rib, like the *Aſh-Tree.* Its flowers conſiſt of five Petals in a ſpike. Its fruit has ſeveral horns; and is aromatic. The Roots are good againſt an Epilepſy; they kill Worms, and are aperitive and cordial. *FRA-*

FRAXINUS. The *Aſh-tree* has its Leaves by pairs all along a Rib. The fruit is flat, ends in a point, and is membranous. The Bark of this Tree, and its Wood, may be ſubſtituted in the room of *Guaiacum.* The Water diſtilled from it is in repute for cureing Deafneſs.

FRITILLARIA. Fritillary has a Flower almoſt intirely like a *Tulip,* but the Petals are narrower, and reſemble a large *common Graſs.* The Root conſiſts of two Tubercules; whereas the *Tulip* has but one. The Roots are emollient.

FUMARIA. Fumitory has Leaves of a Sea-green colour, cut pretty fine: its flowers grow in a ſpike, and conſiſt of two Petals which form as it were two lips, in which there is a ſmall ring. It has a Pedicle. Its fruit is membranous, and oblong. This Plant has a diſagreeable raſte. It grows in Vineyards. The Roots are applied to Contuſions, and old Wounds: and ſcabby Perſons are waſhed with the Juice.

FUNGUS. The *Muſhroom* reſembles a little Hat, either lamellated or tubulous underneath, placed upon a little Pillar. All *Muſhrooms* are dangerous to eat. Thoſe which grow upon the *Elder-tree* are reſolvent; and are applied to Inflammations.

G.

GALEGA. This Plant reſembles the *Liquoriſh,* but its Roots are not ſweet. The flowers are Cluſters which grow in a Spike: its fruits are round, ſmall Pods; thoſe of *Liquoriſh* are flat and ſhort: the Leaves grow by pairs upon a rib which ends in a ſingle Leaf. That which is called *Goats-Rue* expells poiſon: the Stalks are chanelled, and hollow; and have a little thorn at the end of the Leaf.

GALEOPSIS. Stinking Dead Nettle is like the *Nettle,* but its flower is a labia ed Tube with two lips, of which the upper one is hollow, and the under one divided into three Segments: the Empalement is a funnel, which the *Nettle* has not. The Decoction of it ſtops a Looſeneſs. Its yellow flowers have a large Hood hairy about the borders.

GALLIUM. The *Cheeſe-rening* or *Ladies Bed-ſtraw* has ſmooth Leaves, not at all rough nor downy, diſpoſed in whirls round the joints of the ſtalks, like *Cleavers*: the flowers are mono-petalous cut into four Segments. Scabby Perſons are rubbed with a Decoction made of it.

GENISTA. *Broom* has long, flexible branches, furniſhed with ſome ſmall Leaves which grow ſingle, and likewiſe ſeveral together one above another: its Pods are all flat; and its flowers papilionaceous. The *Spaniſh Broom* is very aperitive and diuretic: the flowers of it are conſerved in Brandy to ſtop vomiting.

GENISTA SPARTIUM. This Species of *Broom* is very prickly: its Leaves are purgative.

GENISTELLA. This Species of *Broom* has its Leaves compoſed of ſeveral joints. Emollient Fomentations are made of it.

GERANIUM. *Cranes-bill* has a ſmall Roſe-flower: its fruit is a Needle compoſed of five pieces applied one to the other. The *Herb Robert* in a Cataplaſm or in a Decoction diſſolves coagulated Blood proceeding from a Bruiſe. The Roots are downy, and reddiſh; and its Leaves cut in jaggs.

GENTIANA. *Gentian* or *Fel-wort* has Leaves like the *Plantain*; which grow by pairs, and are bitter. The Flower is mono-petalous, in the ſhape of a Bell, cut down to the bottom: its fruit is oblong, bellying out in the middle, and contains flat ſeeds. Its Roots, which are very large and yellowiſh, are accounted by many as ſovereign a Specific as the *Quinquina*. The great Species is in uſe.

GENTIANELLA. The *Little Gentian* has a Flower not cut down to the Baſe like *Gentian*.

GEUM. This Plant has a ſmall Roſe-flower: its fruit has two Horns. The Species which is uſed has fat, downy, and acrid Leaves: its Flowers are ſpotted with red ſpecks. It is vulnerary.

GLADIOLUS. This Plant has Leaves which reſemble thoſe of the *Iris*; but its Flower is labiated having two Lips; and its Roots are two fleſhy knobs, which the *Iris* has not. Its Roots are ſuppurative.

GLAU-

GLAUCIUM. This ſpecies of *Poppy* differs from the common by its Pods; whereas the common ſort has heads. The Flower of the *Glaucium* has four Petals, and its Empalement two. Applied to Tumours it diſſolves them.

GLAUX. Milk-wort has a ſmall mono-petalous Flower, without an Empalement: its fruit is membranous, and opens from the top downwards. The Roots creep; and the leaves are like thoſe of a very ſmall *Purſlane.* A Decoction made of it increaſes Milk.

GLOBULARIA. This Plant has a round, radiated, reddiſh Stalk: its Leaves are like thoſe of the *Daizy*: and its Flower is a head compoſed of blue Tubes. It is vulnerary.

GLYCYRRHIZA. Liquoriſh has Leaves by pairs upon a rib, which ends in a viſcous one. The Flower is cluſtered; and the fruit is a ſhort Pod. The Roots run very far in the Ground. They are pectoral.

GNAPHALIUM. The Flower of *Cud-weed* is a head compoſed of ſeveral ſmall Tubes; and its white Leaves are very cottony. Its reſembles the *Elychryſum*; but its Empalement does not glitter. That which grows by the Sea-ſide is deterſive.

GNAPHALOÏDES. This Plant differs from the preceding, by the Empalement of the Flower, of which every Petal becomes a triangular Fruit.

GRAMEN. All the Plants which have Leaves like the *Common Graſs*, and have Ears which bear ſmall Seeds of which Bread is not made, are called *Gramen.* The *Common Graſs* is diuretic and cooling; and Ptiſans are made of it.

GRANADILLA. The *Paſſion-flower* reſembles the *Clematis*; for its branches are flexible, and full of Tendrils: but in the midſt of its Flower, which is like a Roſe, there are three long bodies like three Nails, and ſeveral long Fibres, which the *Clematis* has not. The Fruit reſembles a *Pomgranate*, but it is not winged.

GROSSULARIA. The *Gooſe-berry-Buſh*, is a ſmall Shrub which bears *Gooſe-berries*, which are round. It has a Roſe-Flower conſiſting of five Petals fixed in an Empalement. *Gooſe-berries* are given to Perſons in a Fe-

ver, to cool them. They are binding, when they are not ripe.

GUAIACANA. The Leaves of this Plant reſemble in ſome manner thoſe of the *Wall-nut Tree*, being downy on the under ſide, and whiteiſh: but its Flower is mono-petalous, in the ſhape of a Bell; and its fruit is like a ſmall Plum, incompaſſed with an Empalement. That Species which is called *Lotus Africana* has Leaves and Fruits which are aſtringent.

H.

HARMALA This *Wild Rue* has plump, fleſhy, and bitter Leaves, which grow ſingle: it has a Roſe-Flower; and its fruit is triangular. It provokes Urine.

HEDERA. *Ivy* is a Shrub always green, which mounts and climbs up the neighbouring Bodies, like a *Vine*. It bears Cluſters of Berries, and has a Roſe-flower. Its Leaves are thick. The Fruits purge upwards and downwards. The Gum of it is depilatory.

HEDERA TERRESTRIS. *Ground-Ivy* is an Herb which creeps very far upon the Ground, of a ſtrong ſmell. Its Leaves are round and ſerrated. The Decoction of it is vulnerary, anti-ſcorbutic, and aſthmatic.

HEDYPNOIS. This kind of *Hawk-weed* has the Leaves of wild *Chicory* or *Succory*: but it differs from the Plants which are like it, by its Fruit, which reſembles a ſmall *Musk-Melon*. The Flower is like that of *Succory*. It is vulnerary.

HEDYSARUM. The Flowers of this Plant are papilionaceous in a Spike: its fruit is a long Pod, conſiſting of pieces which are jointed, and waved. *Bird's-foot* has its Pods, like a Sickle, which this has not. The *common Hedyſarum* has Leaves like thoſe of *Liquoriſh*; and its Flowers are red. It is aperitive, and vulnerary, being uſed internally or externally.

HELENIUM. *Elecampane* is like a great *Sun-flower*, its Flower is radiated; its Leaves are white on the lower ſide; and its Roots are aromatic. A warm Decoction of the Roots in Wine is drunk for the Aſthma. The Root conſerved is good for the Stomach.

HE-

HELIANTHEMUM. The *Dwarf Ciſtus* or *Small Sun-flower* has ſmall Roſe-flowers, conſiſting of five Petals, in a three-leaved Empalement. The Leaves grow by pairs. The Species in uſe has yellow Flowers, and Leaves like *Hyſſop*. The Decoction of it ſtops a Looſeneſs

HELIOTROPIUM. The *Heliotrope* or *Turn-ſol* has a mono-petalous Flower, cut into ſeveral Segments. All its little Flowers form a long ſpike, which is crooked at the end. Its Leaves are lanuginous; and there are four ſeeds in the Flower-cup. It cleanſes Ulcers, diſpells Warts, and heals Cancers at their firſt beginning.

HELLEBORINE. The *Baſtard Hellebore* has Leaves like the *white Hellebore*, or like the *Lilly of the Valley*. Its Roots are fibrous: its Flower conſiſts of ſix unequal Petals: and its fruit is a triangular Pillar. It is deterſive.

HELLEBORUS. The Leaves of *Hellebore* are placed like the Fingers of an open hand; and one may ſee ſeveral horns in the Flower. Its fruit is a heap of ſmall Pods. Mad Perſons are purged with the Powder of the Root of *black Hellebore*.

HEMIONITIS. This Plant is like a Hart's Tongue: for it has long Leaves without Segments, but they have at the baſe great Horns in the ſhape of a Scythe. There are ſome ſpecies, the Leaves of which grow three at a place upon a Pedicle. Its ſeeds are upon the back of the Leaves; for it has no Flowers. It is vulnerary, and the Decoction of it is pectoral.

HERBA PARIS. *Herb Paris*, *True Love*, or *One-berry* has generally but four Leaves near the top of its Stalk: its Flower conſiſts of four Petals; and the fruit is a ſoft Berry almoſt globular, and divided into four Cells. The Berry is eaten as a preſervative againſt the Plague; and the Leaves are applied to peſtilential *Buboes*.

HERNIARIA, *Rupture-wort* has branches which creep upon the Ground, like the *Knot-Graſs*, to which it is very much alike; but it is all covered with ſmall Seeds, which the *Knot-Graſs* has not. Cataplaſms are made of it, which are applied to Ruptures, to heal them.

HESPERIS. Dames-violet has a Flower conſiſting of four Petals; and for its fruit a Pod. It differs from the *Gilly-flower* by its ſeeds, which are not flat, but either cylindrical, or globular. It is anti-ſcorbutic, and aſthmatic. The ſpecies which is cultivated is in uſe. Its Leaves are ſomewhat like thoſe of *Rocket.*

HIERACIUM. Hawk-weed reſembles *Dandelion* by its Leaves and its Flowers; but it ſends forth ſtrong ſtalks, full of Branches and Leaves, each of which ſtalks bears ſeveral Flowers. But *Dandelion* emits onely one weak, naked, and hollow ſtalk, at the end of which there grows but one Leaf. The *Dandelion Hawk-weed* has Leaves which are obtuſe; and its Roots are cooling.

HIPPOCASTANUM. The *Indian Horſe-Cheſnut* bears ſix or ſeven large Leaves at the end of a Pedicle; and its Flowers are Roſe-flowers which grow in Cluſters, which the *common Horſe-cheſnut* has not. The *Indian Horſe-cheſnuts* are very aſtringent; and are given to broken-winded Horſes.

HORDEUM. Barley reſembles Wheat, but its Seeds are more pointed, and more rough. It is put into Ptiſans to cool feveriſh Perſons: and Cataplaſms to ſoften and diſſolve are made of the Meal.

HORMINUM. Clary is pretty much like *Sage*: its ſtalk is four-ſquare; its Leaves downy, and of a very weak ſmell. It has a labiated Flower with two Lips, and as it were a little bowl of a Spoon, which ſeems added to the upper lip, which *Sage* has not. The *Garden Clary* is deterſive and reſolvent.

HYACINTHUS. The *Hyacinth* has bulbous tunicated Roots. Its Leaves are long and narrow, like the *Daffodil*; but its Flower is a Tube widened, and cut on the top. The *Daffodil* has its Tube in the middle of its Flower. The Root is deterſive and reſolvent.

HYDROCOTILE. This *Water-Ranunculus* is an umbelliferous Plant. Its Seeds are flat, and ſemi-circular. Its Leaves are round, and hollow. It is aperitive.

HYDROPHYLLON. The fruits of this Plant are round Berries which grow in a heap. Its Flower is mono-petalous, in the ſhape of a Bell, ſupported by a ſtellated Empalement.

HYOSCYAMUS. *Hen-bane* has Leaves which are moſt commonly ſupple. Its fruit is a little Pot, rounded at the bottom, and covered with a Lid, in a Flower-cup divided on the top into five ſegments. The Flower is a Tube widened on the top. It is narcotic, aſſuages Pain, and diſſolves Tumours. It is not taken internally.

HYPECOON. This Plant reſembles *Fumitory*, having jagged Leaves, and long, flat, jointed Pods. The Flower conſiſts of four Petals; whereas *Fumitory* has but two, with a Pedicle. It is counted ſoporiferous.

HYPERICUM. *St. John's-wort* has a little yellow Roſe flower: its fruit has three Points, and three Cells. The common Species is very vulnerary. The Oil of it is made by the infuſion of its Flowers and of its Tops.

HYSSOPUS. *Hyſſop* has labiated Flowers with two lips, which are half verticillated. *Lavender* has Flowers diſpoſed in long Spikes. *Roſemary* is ligneous, and grows like a Shrub. *Savoury* has its Flowers in the boſoms of the Leaves. All theſe Plants are alike in their Leaves, and are all aromatic. The *Common Hyſſop* is aperitive: the Decoctions of it are drunk, which are vulnerary and aſthmatic.

I.

JACEA. The *Knap-weed* and the *Blue-bottles* are alike: their Flowers are Heads compoſed of Tubes; but thoſe of the *Knap-weed* are alike, both in the Centre and in the Circumference, which thoſe of the *Blue-bottles* are not. The *Blue-bottles* has downy Leaves. The *Knap-weed* has heads like the *Thiſtle*, but they have no Prickles; and its Leaves are not prickly.

JACOBÆA. *Rag-wort* has radiated Flowers, diſpoſed in an Umbel at the end of the Branches; and its Seeds are downy. It is like the *Ground-ſel*; but the Flower of the latter is not radiated. It is vulnerary. The Seed taken to the quantity of half a Dram is purgative. A Decoction of the Flowers in Wine provokes the Terms.

JALAPA. Jalap has a fruit which is round; and its Flower is a Tube widened at the top, in a double Flower-cup. The Root purges.

JASMINUM. The *Jeſſamine* is a Shrub, which has long, flexible branches, full of Tendrils: its Flower is a ſweet, odoriferous Tube, cut in the ſhape of a little Roſe; and its fruit is a Berry. An Oil is made of the Flowers by infuſion: it is emollient, and nephritic; and is put into Clyſters.

ILEX. The *Ever-green Oak*, the *Holly*, and the *Cork-tree* are extremely alike: their Leaves are furniſhed with prickles always green and horned: but the *Ever-green Oak* has Acorns, the *Holly*-Berries, and the *Cork-tree* a thick Bark which cleaves from the Tree, and it likewiſe bears Acorns. The Bark of the *Ever-green Oak* is very aſtringent.

IMPERATORIA. Maſter-wort and *Angelica* differ but very little: they have Roſe-flowers diſpoſed in an Umbel; but the Seeds of the former are flatter, and have a ſmall foliaceous wing all round; but thoſe of the latter are gibbous. Their Leaves are cut into large ſegments. The Eſſence drawn from the great Species of *Maſter-wort* is given to Perſons in a Fever. Its Leaves grow three at a place, upon a Rib divided into three.

JONTHLASPI. Treacle-Muſtard has a flower compoſed of four Petals: its little fruit conſiſts of two Membranes intirely flat like a *Lentil*, between which there is a ſeed. That Species which has Leaves like a *Lentil* is deterſive.

IRIS. This Plant has Leaves which reſemble large Knives: its Roots are long, fleſhy, and creep. It is like the *Gladiolus*; but the Root of that conſiſts of two fleſhy knobs. The Root of *Xiphion* is compoſed of ſeveral Coats. The Flower is mono-petalous, cut into ſix large Segments. The *Iris* of *Florence* is deterſive, pectoral, and provokes the Terms.

ISATIS. Woad has a Flower conſiſting of four Petals. Its Seeds are contained in a flat capſule which has the ſhape of a little pendulous Tongue. This Plant has ſomewhat of the nature of *Cole-wort*. The *Iſatis Sativa* being bruiſed, is applied to the Wriſt, during the cold Fit of an Ague.

JUNCAGO. The *Baſtard-Ruſh* has Leaves reſembling the *common Graſs* or the *Reed.* At the end of its ſtalks it has Spikes compoſed of little Roſe-flowers. The fruit conſiſts of three ſmall, aquatic Pods. It provokes Urine, and ſtops a Looſeneſs.

JUNCUS. The *Ruſh* grows in watery places, and has round, ſmooth ſtalks, filled with a porous Pith. It has ſmall Roſe-flowers which have no Empalement, and are ſituated a litle below the prickly point. The Seeds are triangular, and ſoporiferous.

JUNIPERUS. The *Juniper-tree* is a Shrub, which has very ſmall Leaves, prickly at the end, and of a Water-colour. The fruits are Berries which contain three Seeds. The Wood is like the *Guaiacum*, its fruits are diuretic, their Water is nephritic, and their Extract a Treacle.

K.

KALI. *Glaſs-wort* grows like a branched Shrub: its Leaves reſemble that Species of *Houſe-leek* which is called *Prick-madam*; they are long and round. The fruit is almoſt globular, and contains a Seed twiſted like a Periwinkle. A Cauſtic Salt is drawn from it.

KETMIA. Mr. *Ray* ſays, that this Plant is a Species of foreign *Mallows*, but it is different from them in its fruit, which is divided into ſeveral ſeminal Cells. It has the virtue of *Mallows.*

L.

LACHRYMA JOB. *Job's Tear* has Leaves altogether like thoſe of *Millet*, or thoſe of the *Reed*: but its fruits are round at the bottom, and pointed on the top. *Millet* is round and very ſmall. The Decoction of its Seeds is aperitive.

LACTUCA. The *Lettuce* and the *Sow-thiſtle* are difficultly diſtinguiſhed: but the Stalks of the latter are more hollow, weak, and tender; its Leaves have weak and ſoft prickles; and its Flower is a Head which ends in a point. They have a milky Juice. *Lettuce* is cooling.

LA-

LAMIUM. *Arch-angel* or *Dead-nettle* is like the *Nettle*, but the latter ſtings; it has its flowers and its fruits in ſmall Cluſters. The Flowers of *Arch-angel* are labiated Tubes with two lips, the upper of which is hollow, and the lower cut into two ſegments. The Leaves grow ſingle: the Seeds are triangular and reddiſh. Reſolvent Cataplaſms are made thereof. The Decoction ſtops the Whites.

LAMPSANA. *Nipple-wort* has ſomething of the nature of *Lettuce*, being a little milky, and blowing like it: but its Flower-cup reſembles the Crown of a Trepan filled with prickly Seeds. *Lampſana Domeſtica* is emollient, and Fomentations are made of it for ſore Nipples.

LAPATHUM. The *Dock* is altogether like *Long Sorrel*, but it is not ſour. Lotions for ſcabby Perſons are made of it.

LAPPA. The *Bur-Dock* has very large, broad Leaves, which are whiteiſh on the under ſide. Its flower is a heap of little Tubes inchaſed in a Head or ſmall round Ball, compoſed of Prickles crooked at the end, which ſtick to Garments. Lotions are made of it for the Scab. The tender Stalks are eaten like *Artichokes*.

LARIX. The *Larch-tree* is like the *Pine*; but its Leaves grow ſeveral together in Cluſters, like a Pencil or Painter's Bruſh faſtened in the Branches. The *Pine-tree* has its Leaves by pairs. The *Turpentine* which diſtills from the *Larch-tree* is a Balſam for Wounds.

LASERPICIUM. *Laſer-wort* is an umbelliferous Plant, which has narrow, rough, jagged Leaves, cut at the end like a Hart's horn, which are ſomething like *Fennel*: it has large hollow Stalks. Its little Flowers are Roſe-flowers, which grow in an Umbel; and its ſeeds have four foliaceous Wings placed length-ways. The Root is vulnerary, hyſteric, reſolvent, and carminative.

LATHYRUS. The *everlaſting Pea* is a kind of *Peas*, which has its flat Stalks, augmented with a foliaceous wing; and its Leaves are by pairs upon a Pedicle, which ends in a Tendril. The Broth of theſe *Peas* ſtops a Looſeneſs.

LAVANDULA. *Lavender* has ſmall Leaves like *Hyſſop* and *Roſemary*, and its Flowers grow in long Spikes making Whirles round the Stalks. *Hyſſop* has its Flowers one

one above another, turned only on one ſide: and *Roſemary* grows like a ligneous Shrub. *Lavender* is put into Ptiſans, to provoke the Terms, and to expell Wind.

LAUROCERASUS. The *Laurel* bears ſmall poly-petalous Roſe-flowers; and its fruits reſemble *Cherries* which grow in Cluſters, which the common *Bay-tree* has not. Its Leaves are thick, being like thoſe of the *Citron-tree.*

LAURUS. The *Bay-tree* has a mono-petalous Flower in the ſhape of a Baſin. Its fruits are Berries which contain a Stone. Both the Leaves and the fruits are carminative, reſolvent, and diuretic. The common Species is uſed both internally and externally.

LENS. The *Lentil* has a papilionaceous Flower proceeding out of the boſoms of the Leaves. It has a Pod which is ſhort, and contains flat, and round Seeds. The Leaves are ranged upon a Rib; and the Branches end in Tendrils. The *Lentil* is binding.

LENTISCUS. The *Maſtic-Tree* and the *Turpentine-tree* are alike in their Flowers and their fruits: they have likewiſe Leaves by pairs upon a Rib; but the *Maſtic-Tree* ends with two Leaves, and the *Turpentine-tree* with one, the Leaves of which are the larger. The Decoction of the Wood is aſtringent. *Maſtic* diſtills from it.

LEONURUS. The *Lion's-tail* has its Flowers all along the Stalks: they are labiated Tubes with two lips, of which the upper is imbricated, and the lower is divided into three Segments. Its Leaves are long; and its Seeds oblong in a Tube. The Leaves of *Mother-wort* are rounded and indented; and its Seeds triangular.

LEPIDIUM. The *Common Dittander* or *Pepper-wort* has a Flower conſiſting of four Petals. The fruit is a ſmall triangular Pod. This Plant has the taſte of *Pepper.* Aperitive and diuretic Ptiſans are made of it; and likewiſe Lotions for the Itch.

LEUCANTHEMUM. The Flower of this Plant is radiated, the Petals of the circumference being white, and the Centre yellow. The *Chryſanthemum* is all yellow.

LEUCOIUM. The *Stock-gilly-Flower* has a Flower consisting of four Petals, and a Pod containing flat Seeds, incompassed with a border or fringe. The seeds of *Dames-violet* are oblong; those of the *Tower-mustard* are flat, but not bordered. The *yellow Stock-gilly-Flower*, which grows upon Walls, is excellent to provoke the Terms, and to bring away Gravel. A Water is drawn from it which is drunk.

LICHEN. *Liver-wort* consists of Husks sticking to the trunks of Trees or to Stones. A Decoction made thereof stops Bleeding.

LIGUSTICUM. The *Lovage* is an umbelliferous Plant, which differs from the *Laser-wort* by its seeds, which are only chanelled pretty deep, but have not any foliaceous wing. The *Lovage of Matthiolus* is in use. The Roots and the Seeds are carminative.

LIGUSTRUM. The *Privet* is a Shrub, the Flowers of which are small white Tubes, cut on the top, and which grow in Clusters. The fruits are black Berries in Clusters. The Branches are long, fine, and flexible. Gargarisms are made of the Flowers and of the Leaves for the Ulcers of the Mouth.

LILAC. The Flowers of this Plant are small Tubes cut on the top, which grow in long Clusters. Its fruits are small flat Pods containing bordered Seeds. The Seeds are astringent.

LILIO-ASPHODELUS. This Plant is distinguished from the other Species of *Lilly*, by its Roots, which are grumous; and by its Flower, which is mono-petalous, and cut into six Segments. The Flowers of the yellow Species are emollient and resolvent.

LILIASTRUM. This Plant has the Flower of the *Lilly*, consisting of six Petals; and its Roots are as it were fibrous lumps. The Root expells Wind.

LILIO-HYACINTHUS. This Plant resembles the *Lilly* by its Flower, its Leaves, and its Root: but its fruit is roundish with three sides or three Angles, whereas that of the *Lilly* is triangular and long. The Roots are emollient.

LILIO-NARCISSUS. This Plant has the Flower of the *Lilly*; but the Root is a Tubercule composed of several Coats. Both the Flower and the Roots are emollient.

LI-

LILIUM. The *Lilly* has a ſquamous, bulbous Root; a Flower conſiſting of ſix Petals; and bordered Seeds. The Root is emollient and ſuppurative.

LILIUM CONVALLIUM. The *Lilly of the Valleys* or *May-Lilly* has a Flower like the *White Hellebore*, being mono-petalous, and in the ſhape a Bell. Its fruit is a Berry. The Water diſtilled from its white Flowers is given to Perſons afflicted with an Epilepſy; and the Conſerve of them is good for all the Diſeaſes of the Brain.

LIMONIA. The Rind of the *Limon* is thinner than that of the *Citron*; and the former has more Pulp. *Limons* are a kind of *Citrons*, and are a cordial like them.

LIMONIUM VULGARE. The *Sea-Lavender* has Leaves like the *Hart's Tongue*, but fatter and browner; the Stalks are branched, but without Leaves. The ſmall Flowers grow on the top of the ſtalks. They provoke Urine.

LIMODORUM. This Plant differs from the *Orchis* by it fibrous Roots, from the *Hellebore* by its Flower which is like a Spur, and from the *Tway-blade* by the order of its Flowers, which ſtand alternately. It is the *Orchis abortiva.* It is aperitive.

LINARIA. The *Toad-flax* has a perſonated Flower ending in a Spur: its fruit is round and has two Cells. The ſtalk is full of Leaves. The *common* Species with a large yellow Leaf is a Specific applied to the Piles.

LINGUA CERVINA. *Hart's Tongue* has ſimple, long, coriaceous Leaves, cut at the end in ſome Species. Its Seeds are ſtreight lines on the backſide of the Leaves.

LINUM. *Flax* has a flower conſiſting of ſix Petals: its fruit has ſeveral Cells which contain oblong, flat, ſhineing ſeeds. The Oil drawn from the ſeeds of the *common* Species is emollient and lenitive. Its Leaves are narrow, oblong, prickly, and ſtand alternately.

LITHOPHITON is a ligneous Coral. Two Drams of it taken in powder ſtop a Looſeneſs.

LITHOSPERMUM. *Gromil* or *Gromwell* has rough Leaves, which grow alternately. Its flower is a mono-petalous Tube, cut into five ſegments. Its Seeds are round, hard, and ſhineing; four in an Empalement. They are diuretic.

LON-

LONCHITIS. Spleen-wort. This ſpecies of *Fern* has a little ear at the Baſe of its Leaves. It is aperitive and diuretic.

LOTUS. The Flower of the *Birds-foot-Trefoil* is a Cluſter, and its fruit a Pod. Its Leaves grow three at a place upon a Pedicle, at the bottom of which there are two more. *Melilot* has only three Leaves upon a Pedicle. It is deterſive.

LUNARIA. Moon-wort or *Bulbonach* has a flower conſiſting of four Petals. Its fruit is a very broad, flat, roundiſh Pod. Its Leaves are like thoſe of the *Nettle.* A Dram of the Seed taken in the diſtilled water of the *Lime-tree* is a remedy againſt the Epilepſy.

LUPINUS. Lupines. The flower of this Plant is papilionaceous; and its fruit a Pod containing bitter ſeeds: its leaves are diſpoſed at the end of a Pedicle like the Fingers of a Hand ſpred open. The Meal of it is put into reſolvent Cataplaſms.

LUPULUS. The *Hop* has its flowers in Chives; and its fruits are ſquamous heads. This Plant grows very high by taking hold of any thing near it. Its Leaves are rough, and by pairs like *Bryony.* Its Roots are ſmall. Decoctions are made of the tops, which are diuretic; and ſcabby Perſons are waſhed with them.

LUTEOLA. Wold has ſmall yellow flowers compoſed of ſeveral unequal Petals, which grow in very long ſpikes, as well as its little Capſules with three Points, which contain ſeeds. The Diers make uſe of it to die Yellow. The Decoction of its Roots is aperitive.

LYCHNIS. The *Campion* is diſtinguiſhed from the *Pink* by its Flower-cup which is ſimple, whereas that of the *Pink* is double. The ſeed of the *wild* Species purges to the quantity of two Drams.

LYCOPERDON. The *Puff-ball* is a kind of *Muſh-room* intirely round like a Boul, full of a fine powder when it is old. This Powder being applied, ſtops bleeding.

LYCOPERSICON: Apples of Love. This ſpecies of *Night-ſhade* differs from the reſt, by its fruit, which is as big as a ſmall Apple, being partitioned into ſeveral Cells, which contain bordered ſeeds. The Juice of the Plant is an excellent remedy applied to Inflammations.

LYCOPUS. The *Wolfs-foot* or *Water Hore-hound* reſembles the *black Hore-heund,* but its Leaves are cut more all round,

round. Its flowers are two lips which reſemble a Funnel cut on the top, and are diſpoſed one above another. It is good to ſtop a Looſeneſs.

LYSIMACHIA. The *Looſe-ſtrife* has a round Fruit, and Leaves like thoſe of the *Willow*, which grow by pairs, or three at a place, round the knots of the ſtalks. Its Flowers are yellow. It ſtops a Looſeneſs.

M.

MADREPORA. This kind of *Coral* is pierced with ſeveral holes: the Powder of it is aſtringent.

MAJORANA. *Marjoram* differs from *Organy* by the diſpoſition of its Flowers, which grow in ſhort Heads, compoſed of a four-fold order of Petals, placed like ſcales; whereas thoſe of *Organy* are more in a ſpike. Its flowers have two lips. It is cephalic, carminative, hyſteric, and aſthmatick: it increaſes Milk. It is uſed both internally and externally, in Powder, in Infuſion, and in Cataplaſms.

MALVA. The *Mallow* has a mono-petalous flower in the ſhape of a bell, cut into ſeveral ſegments, and ſupported by a double Empalement, in the middle of which there is a tuft. The ſeeds are placed circularly beſides one another: the Leaves are intire. The *Althæa* or *Marſh-mallow* has them more pointed and ſupple; the *Alcea* or *Vervein-mallow*, more jagged. The whole Plant is emollient and lenitive. Ptiſans, Clyſters, *&c.* are made of it.

MALUS. The *Apple-tree* bears *Apples* which every-body knows; and has ſmall Roſe-flowers. The *Pippins* are cordial; the *Wildings* very aſtringent.

MANDRAGORA. The *Mandrake* has no ſtalks: its Leaves are large, and proceed immediately from the Root, as well as its Flowers, which are mono-petalous, in the ſhape of a Bell, and cut into ſeveral ſegments. Its fruits are fleſhy Apples, embraced by a large Flower-cup. Its Roots are likewiſe large. It is very narcotic and emollient. It is not uſed internally: the Roots are good for the Inflammations of the Eyes, *Eryſipelas*, &c.

MARRUBIASTRUM. The flower of *Baſtard-Horehound* is a Tube with two lips, of which the upper is hollow like a Spoon, and the under is cut into three

notches. The *common* Species is deterſive: the Stalks of which bend towards the ground; and the Leaves reſemble thoſe of *Chick-weed*, but are larger and ſerrated.

MARRUBIUM. The *Hore-hound* is like the *Nettle*; but its flowers are mono-petalous, having two lips, of which the upper is divided into two parts, and the under into three: they are likewiſe verticillated. The Decoction of this Plant is given to perſons afflicted with an Aſthma. The *white Hore-hound* is uſed, the Leaves of which are wrinkled and ſerrated.

MATRICARIA. The *Feverfeu* blows like the *Daizy*, but its Flowers grow in an Umbel at the end of the branches, and its Leaves are jagged: thoſe of the *Daizy* grow ſingle, and its leaves are intire. The Water and the Syrup of *Feverfeu* provoke the Terms, and are hiſterical. Topical Remedies are made of them for Women newly delivered.

MAYS. *Turky-wheat* has Leaves like the *Millet* or the *Reed*; but its ſeeds which are bigger and not ſo round, grow in great ears, which are cloſe and hairy; whereas *Millet* grows in Ears faſtened to long threads, which all together make a great heap. The Seeds are put into Ptiſans for the Stone-Cholic, being mollifying.

MEDICA. This Species of *Tre-foil* differs from the others by its fruit, which is rolled up like a Snail. Its Flowers are cluſters; and its Leaves grow by three upon a Pedicle. The Decoction of it is diuretic.

MEDICAGO. This Species of *Tre-foil* has its fruit intirely flat, and in the ſhape of a Sickle.

MELAMPYRUM. *Cow-Wheat* has labiated Flowers with two lips, in round Spikes. Its Seeds reſemble Grains of Wheat; and its Leaves are jagged. It grows among the Corn.

MELIANTHUS. This Plant reſembles a *great Burnet* which grows very high; but its Flower is poly-petalous, whereas that of the *Burnet* is mono-petalous. The Species which is uſed has a Leaf which ſupports the Flower; and the Flower-cup is filled with a red, ſweet, luſcious Liquor, which is cordial and ſtomachic.

MELILOTUS. The Flowers of *Melilot* are Cluſters diſpoſed in a Spike. Its fruits are Pods which are not wrapped up in a Membrane like the *Tre-foil*, and its Leaves

Leaves grow three at a place upon a Pedicle. The *Birds-foot Trefoil* has three, and two more at the bottom of the Pedicle. The *Melilotus Officinarum* is emollient, resolvent, and carminative: Clysters, Decoctions, Cataplasms, and Fomentations are made of it, and the *Melilot*-Salve.

MELISSA. Balm has labiated Flowers with two lips, which grow one above another, in the bosom of the Leaves, and almost incompass the whole Branch. The Leaves are of a dark green, and smell like the *Citron*. It is diuretic and cephalic, and good against the Plague.

MELO. The Leaves of the *Musk-Melon* and of the *Cucumber* are alike, as well as their Flowers; but the Leaves of the former are a little rounder. The *Musk-Melon* is not so long as the *Cucumber*, and has no Tubercules: it has a good smell, and an agreeable taste. The *Cucumber* is more insipid: it is cooling. The Seed is one of the four cold Seeds: Emulsions are made thereof.

MELONGENA. The *Mad-Apple* is like *Night-shade*, but its Seeds are crooked, those of *Night-shade* flat: its fruit is fleshy, that of *Night-shade* full of Juice. This Plant or its fruit is applied to Inflammations, Cancers, *&c.*

MELOCACTUS: The *Melon-Thistle.* That which is seen in the King's Garden is a large fruit set thick with sharp prickles like Needles, and laid upon the Ground.

MELOPEPO. This Plant differs from the other cucurbitaceous Plants in its fruit, which is roundish, and a little flat at each end. Its Seeds are not bordered: they are cold.

MENTHA. The Flower of *Mint* has two lips, and is cut into four parts. The Leaves are intire, and have a good smell. It has four seeds in a serrated Flower-cup. Two Drams of its Root in powder provoke the Terms. It is very vulnerary.

MENYANTHES. Marsh-Trefoil or *Buck-bean* has a mono-petalous Flower, in the shape of a Funnel, cut into several Segments. Its fruit is oblong, having two Cells. Its Leaves resemble those of *Beans*, and grow by three upon a Pedicle. The Seed is pectoral, and stops the spitting of Blood.

MERCURIALIS. The Flowers of the *French Mercury* are Chives: the fruits are ſmall Bouls faſtened together in pairs. The Leaves likewiſe grow by pairs upon the branches. The diſtilled water of this Plant being drunk provokes the Terms; and being injected, cleanſes the Womb. Its Leaves are emollient, and are put into Clyſters.

MESPILUS. The Flower of the *Medlar*, which is a Tree, is a ſmall Roſe-flower: its fruit is a kind of Crown, containing five ſeeds. The *common* Species has Leaves which are white on the under ſide, and lanuginous. The fruits are very aſtringent.

MEUM: Meu. This Species of *Fennel* differs from the common ſort only by the fineneſs of its Leaves, and by not having the ſmell of *Fennel*. Decoctions and Powders are made of the Roots, which expell wind.

MILIUM. Millet, Turkey-Bread, and *Job's Tear* are alike in their Leaves, which are a ſort of Reeds: but *Millet* has ſmall Seeds exactly round, which grow in very large Spikes, very looſe and bending downwards. The Meal of *Millet* is put into anodyne and reſolvent Cataplaſms.

MILLEFOLIUM. The Flowers of *Yarrow* are little radiated Flowers in round Cluſters, thick ſet in Umbels at the end of the Stalks: and its Leaves are cut very fine along a little rib. The *common Yarrow* is binding, and very vulnerary. It is uſed both inwardly and outwardly.

MIMOSA. The *ſenſitive Plant* is a Tree like the *Acacia*: its Leaves grow by pairs upon a rib which ends in two; and they draw near one another, when they are either touched or ſtricken. The Leaves are vulnerary in topical Remedies.

MITELLA. This Plant is ſo called, becauſe its ſeed is cut like a Biſhop's Mitre.

MOLDAVICA. This Species of *Balm* has a labiated Flower with two lips, each of which is divided into two parts. Its Flower-cup is a Tube cut into two unequal lips. It has Leaves like *Betony*; and its Flowers are verticillated. It is cephalic, and provokes the Terms.

MOLLE.

MOLLE. This Foreign Tree bears Berries like thoſe of *Aſparagus.* It has ſmall radiated Flowers which grow ſeveral together; and its Leaves, which are by pairs, have a milky juice which has the ſmell of *Fennel.* The Powder of the Bark, and of the Leaves, is very mundificative.

MOLUCCA. This Species of *Balm* is diſtinguiſhed by its Flower-cup, which is very large, wide at the top, and narrow at the bottom, in the ſhape of a Bell. It is cordial.

MOMORDICA. The *Male Balſam-Apple* reſembles the *white Briony:* it is full of Tendrils, and climbs like that. The fruit is pretty much like the *Cucumber*; but its ſeeds are indented. An Oil is made by the infuſion of its Flowers and of its Fruits, which is a real Balſam.

MORUS. The *Mul-berry-tree* bears ſoft Berries compoſed of ſeveral ſmall Tubercules. The fruits before they are ripe are very aſtringent, and Gargariſms are made of them.

MOSCHATELLINA. The Flower of the *Musk-wood Crow-foot* is mono-petalous, and cut like the Rowel of a Spur. Its fruit is a ſoft, ſucculent Berry, furniſhed with flat Seeds. The Leaves are of a Sea-green Colour, and cut like *the bulbous Fumitory.* The Root is very deterſive.

MUSCARI. This Species of *Hyacinth* differs from the others by its Flowers, which are ſeveral little Bells all along a Stalk. *Muſcari Cluſii* has a Root which is emetic.

MUSCUS. Every body knows *Moſs:* it grows every where; upon the Ground, upon Stones, and upon Trees. Taken in an Infuſion it is binding.

MYAGRUM. *Gold of Pleaſure* has a Flower conſiſting of four Petals: the Fruit is as big as a Pea, having two empty Cells.

MYOSOTIS. *Mouſe-ear* differs from *Chick-weed* by its Fruit, which reſembles an Ox's Horn: the Decoction of its Root is good for the *Fiſtula Lachrymalis.*

MYRRHIS. *Sweet Cicely* has little Flowers, which grow in an Umbel. Its Seeds are long, chanelled, pointed, and black when they are ripe; its Leaves have ſomewhat of *Fern.* The ſpecies which has a

ſweet ſmell is in uſe; which provokes the Terms, and is anti-epileptic.

MYRTUS. The *Myrtle* is an aromatic Shrub, which has ſmall, narrow Leaves. Its Fruits are crowned Berries, which contain crooked Seeds. The whole Plant is aſtringent and deterſive.

N.

NAPUS. *Navew* differs from the *Turnep* by its Root, which is ſhorter than that of the *Turnep*. Every body knows the *Navew*, which is eaten in Soop. The Root bruiſed is applied to Pains. The Seed is deterſive and diuretic.

NARCISSO-LEUCOIUM. *Snow-drop* bears a ſmall white Flower, which reſembles a poly-petalous Bell, the Head of which hangs down; and the Root is bulbous. It blows in Winter, even when it freezes. The Leaves are like thoſe of *Saffron*, but theſe have a white Line throughout their whole Length, which *Snow-drop* has not. The Root is reſolvent.

NARCISSUS. The Flower of the *Daffodil* is mono-petalous, having a Tube in the middle. Its Root is bulbous; and its Leaves are like thoſe of the *Leek*. That ſpecies which has a white Flower is uſed. Its Root is deterſive, and aſſuages pain in a topical Remedy.

NASTURTIUM. The *Creſs* has leaves which are cut: the *Treacle-muſtard* has them intire. Its Flowers conſiſt of four Petals; and its Fruit is a ſhort flat Capſule, with two Cells. The *Garden-Creſs* is anti-ſcorbutic.

NERION. This Plant is called in French the *Bay-roſe*, becauſe its Leaves have ſome-what of the *Bay-tree*, and its Flower is a mono-petalous Roſe cut into ſeveral ſegments. Its Fruits are Pods. This under-ſhrub has ſome-what of the nature of *Dogs-bane* and of *Swallow-wort*. This Plant is corroſive, and is not uſed at all.

NICOTIANA. *Tobacco* has a mono-petalous Flower, which forms a long Tube cut on the Top. Its Fruit is oblong, with two Cells: that of the *Hen-bane* is a covered Pot. Its Leaves are large without Pedicles, and it ſends

up

up a large Stalk. It is a famous Vulnerary; and a powerful Vomit and Purge. Its Syrup is asthmatic.

NIDUS AVIS. This Plant has this Name, because its Roots are twisted one in another, like a Bird's-nest. By its Roots it differs from the *Tway-blade*, from the *Limodorum*, and from the *Orchis*. The common Species has Leaves cut in the shape of a Heart. It is detersive being outwardly applied.

NIGELLA. The *Fennel-flower* has its Leaves cut very fine: its Fruit is membranous, terminated with several Horns, and divided into several Cells. There is a Crown in the middle of the Flower. The *Nigella Romana of Parkinson* is in use, the Seed of which is aperitive, pectoral, carminative, and febrifuge; and kills the Worms.

NUX. The Fruit of the *Wall-nut-Tree* is a Nut, covered with a large, fleshy covering, which contains a Kernel divided into four Lobes. Its flowers are Cat-kins; and its Leaves grow by pairs upon a Rib. The fleshy cover of the *Nut* is sudorific, as well as the Decoction of the Leaves and of the Flowers.

NYMPHÆA. The Leaves of the *Water-Lilly* are large, round, fleshy, and flote upon the Water, being fastened to long Tails. It has a Rose-flower, and its fruit is large, being either globular or conical, having many Cells. The Roots are as big as the Arm, and are very cooling: being taken in a Decoction they abate the Heat and sharpness of the Urine.

NYMPHOIDES. This Plant differs for the former by its Flower, which is mono-petalous, and cut into several segments. Its Leaves are smaller, and its Fruit has no cells. It has the same virtues as the former.

O.

OCHRUS. This Species of *Peas* differs from the others, by its Leaves, which end in Tendrils. It has a foliaceous Wing along its Branches, like the *everlasting Pea*. It grows among the Corn. It is detersive.

OCIMUM. The *Basil* has labiated Flowers with two Lips, and verticillated. Its agreeable smell like that of a Clove distinguishes it from the Plants which are like it.

ſmall Branch of *Baſil* gives an excellent Taſte to Soop: this is a Secret of the Cooks.

OENANTHE. This umbelliferous Plant has ſeeds furniſhed with Prickles. Its Leaves are cut very fine; and its Roots are grumous. It is aquatic. That Species which has Leaves like *Smallage*, has Seeds and Roots which are carminative.

OLEA. The *Olive-tree* has Leaves like the *Willow*, which are white on the under ſide. Its Fruit is oblong, fleſhy, full of Oil, containing a very hard Stone, furniſhed with a Kernel. The Flower is a mono-petalous Tube cut into Segments on the Top. The Leaves are aſtringent. The Oil of *Olive* is ſoftening and Lenitive; and is put into Clyſters for the Stone-cholic and the Dyſentery.

OMPHALOIDES. This Species of *Flax* is known by its Fruits, which are four ſmall, hollow Baskets, faſtened together by the ſides; and it reſembles *Flax*, from whence it receives the Name of *Linum Umbilicatum.* It is lenitive, being uſed both inwardly and outwardly.

ONAGRA. This Plant has a Flower conſiſting of four Petals, placed at the end of a long, ſlender Pod, one half of which is hollow, and the other full.

ONOBRICHIS. The *Saint-foin* has a Flower in a Cluſter: its fruit is a rough Pod containing one ſingle Seed. The Flowers grow in Spikes, which come forth from the Boſoms of the Leaves. *Liquoriſh*, which it reſembles, has not its Flowers in Spikes. It is deterſive.

OPHIOGLOSSUM. Adders-tongue is ſo called, becauſe its fruit is like a Tongue. Its Leaves have no Fibres in the middle throughout. It has no Flowers, having generally nothing but a fat Leaf. It allays Inflammations; and is uſed both internally and externally.

OPHRIS. Tway-blade has generally only two Leaves faſtened on the back-ſides to its Stalk. Its Flower is like that of the *Orchis.* Its Roots are fibrous, whereas thoſe of the *Orchis* are fleſhy. It is vulnerary.

OPULUS. The *Guelder-Roſe* is a Shrub, which differs from the *Elder* by its Flowers, which being joined together form a large Boul or Tuft; whereas thoſe of the *Elder* are in a flat Umbel. Its Berries contain a flat Seed in the ſhape of a Heart; but the Seed of the *Elder*

der is long. The Decoction of the Fruit is emetic, and the Water of the Flowers diuretic.

OPUNTIA. The *Indian-Fig* has large, broad Leaves, an Inch thick, ſucculent, and placed ſeveral of them end-wiſe. The Fruit reſembles a *Fig*, from whence it takes its Name. The Fruit is moiſtening.

ORCHIS. A Petal of the Flower of this Plant repreſents the figure of ſome Animal; and its Roots are Tubercules. The Root is deterſive; and being conſerved is given to weak and frigid Perſons to invigorate them.

OREOSELINUM. *Mountain-parſly* has Leaves like thoſe of *Parſly*, and of *Hemlock*. It has ſmall Roſe-flowers growing in an Umbel; and its Seeds are flat and bordered. Both the Seeds and the Roots force away Gravel.

ORIGANUM. *Organy* or *Baſtard-Marjoram* differs from *Sweet-Marjoram* and the other aromatic Plants which reſemble it, by the Diſpoſition of its Flowers, which grow in ſlender, ſquamous Spikes, which all together form large Cluſters on the Top of the Stalks and of the Branches. It is reſolvent and carminative.

ORNITHOGALUM. This Plant has a white bulbous Root; and its Leaves are like thoſe of the *Phalangium*. Its Flower reſembles that of the *Leek*; and its Fruit is roundiſh and triangular. The *Phalangium* has fibrous Roots. The *Ornithogalum Dodonei* is in uſe. The Root is emollient, and the Decoction of it pectoral.

ORNITHOPODIUM. *Bird's-foot* is ſo called, becauſe its Pods are faſtened ſeveral of them together, having Joints, and being crooked, ſo that they form a kind of *Birds-Foot*. Its Flower is papilionaceous. The Leaves grow by Pairs along a Rib. It is applied to Ruptures.

OROBANCHE. *Broom-rape* has a mono-petalous labiated Flower with two Lips, of which the under one is divided into three Parts. Its Fruit opens into two Shells. One very ſeldom ſees Leaves upon it. The Stalk is hollow. The *Orobanche Matthioli* is in uſe. The Powder of it is carminative: the Doſe is one Dram.

OROBUS. The Leaves of this Plant grow by Pairs upon a Rib, which ends in a filament. Its Fruit is a ſlender, long, roundiſh Pod, containing oval Seeds. It has papilionaceous Flowers. The Meal of it is put into reſolvent and deterſive Cataplaſms.

ORYZA.

ORYZA. Rice grows in looſe Spikes compoſed of other Spikes: its Seeds are white. It is very nouriſhing.

OSMONDA REGALIS. Oſmond royal reſembles *Poly-pody*; but it bears Fruits at the end of the Stalks, as it were in Cluſters. It has no Flowers. It is an aquatic *Fern*. It aſſuages the Stone-cholic.

OXYCOCCUS. The Leaves of *Moor-berry* reſemble the *Mother* of *Thyme*: its Flower is a Roſe-flower: and its Berries have four Cells. The Berries of this Plant are aſtringent.

OXYS: Wood-ſorrel. This Species of *Trefoil* differs from the others by its ſourneſs. It cools and exhilarates like *Sorrel*.

P.

PÆONIA. The Flower of *Peony* is a large globular Roſe-flower. Its Fruit is compoſed of ſeveral large downy Horns, furniſhed with round and black Seeds. It has likewiſe large Roots. *Mas & Fœmina.* The Seeds and the Roots are cephalic.

PALIURUS. Chriſt-thorn is a prickly Shrub, which has round Leaves. It reſembles the *Jujube-tree*; but its Fruit is flat. Its Seeds are emollient and lenitive.

PANICUM. Panic reſembles the *Common graſs*, but its Spike is round, and compact; and its Seeds are like thoſe of *Millet*. It ſweetens the ſharpneſs of the Humors.

PAPAVER. The *Poppy* has a Roſe-flower, in a two-leaved Empalement. Its Fruit is large, having membranous Partitions within, and is crowned with a ſtarry Chapiter. The Juice is either white, or yellow, and acrid. Decoctions, Syrups, and Clyſters are made of this Plant, to aſſuage the Stone-cholic, and to ſtop a Looſeneſs.

PARIETARIA. Pellitory grows upon the Walls or near them, and has rough Leaves. Its little Flowers are Filaments in the Boſom of the Leaves. Clyſters are made of it to aſſuage Pain.

PARNASSIA. Graſs of Parnaſſus has Leaves ſomewhat like *Ivy*, faſtened to long Pedicles; but thoſe on the Stalk have no Pedicles. The Flower conſiſts of ten unequal Petals; and the Fruit is oblong. It is binding and cooling.

PARONY-

PARONYCHIA. This Species of *Ranunculus* or *Crow-foot* differs from the *common* ſort, by its Seeds, which are not triangular. The Fruit is quinquangular. It is aſtringent.

PASTINACA. The *Garden-Parſnep* is an umbelliferous Plant, which has Leaves compoſed of other pretty large Leaves, ſupported by a great Rib, and ranged as it were by Pairs. The Seeds are large, thin, and bordered. The Roots are eaten. The Seeds allay the Hickup.

PEDICULARIS. *Rattle* or *Rattle-graſs* has a mono-petalous Flower with two Lips, of which the upper one is creſted, and the under one divided into three. It has a membranous Flower-cup ſwelled like a blown Bladder; and its Seeds are either oblong, or flat and bordered. The *red* Species, which grows in Marſhes, has curled Leaves, and hollow Stalks. It is drunk in a Decoction, and is very aſtringent.

PELICINUS. This Plant differs from the *Hatchet-vetch*, by its Pods, which are ſerrated on both Sides: its Leaves grow by pairs all along a Rib.

PENTAPHYLLOIDES. The Leaves of this Plant ſtand along a Rib, like thoſe of the *Wild-Tanſey*, which is a Species thereof: by this it differs from the *Cinque-foil*, which has its Leaves at the end of a Pedicle. That Species, the Leaves of which reſemble thoſe of the *Strawberry-Plant*, has Roots and Seeds which are aſtringent.

PEPO. The *Pumpion* differs from the *Musk-melon*, and the other cucurbitaceous Plants, by its ſeed, which are edged or rimmed about as it were with a Ring. The Seeds are cold.

PERICLYMENUM. The *Honey-ſuckle* differs from the *Wood-bine* in its Flowers which reſemble a Hunter's Horn. It is applied to pituitous Tumours to diſſolve them.

PERIPLOCA. This Species of *Dog's-bane* has likewiſe a milky Juice; but its Flower reſembles that of *Night-ſhade*, whereby it differs from the *Apocynum* or *Common Dog's-bane*, for it has a ſmall mono-petalous Roſe-flower, whereas that of the *Dog's-bane* is in the ſhape of a Bell.

PERSICA. The *Peach-tree* reſembles the *Almond-tree*, but the Leaves of the latter are of a more ſhineing and bright Green. The *Peach* contains a Stone which has very

very deep Furrows. Both the Leaves and the Flowers are purgative and kill Worms.

PERSICARIA. The Flowers and the Fruits of *Arſe-ſmart* grow in long Spikes, all along the Branches, like thoſe of *Sorrel.* Its Roots are fibrous: thoſe of *Biſtort* are thick and fleſhy. The Seed of *Sorrel* is triangular, that of the *Arſe-ſmart* flat. The Species which is acrid and burning being applied to old Ulcers cures them.

PERVINCA. The *Periwinkle* has long Branches full of Tendrils, which creep upon the Ground: its Leaves are ſmooth and ſhineing, of the conſiſtence and colour of thoſe of *Ivy:* its Flower is a Tube cut on the top; and it has for Fruit two Pods. The Decoction of it is a Febrifuge.

PETASITES. *Butter-bur* reſembles *Colts-foot:* their Flowers grow deep in pretty round Leaves, like the *Pumpion,* being white on the under ſide; but the Leaves of the *Colts-foot* are not ſo large. The Flower of the *Butter-bur* is like that of the *Groundſel;* but that of the *Colts-foot* is radiated like the *Daizy.* The *Petaſites vulgaris* is in uſe, the Roots of which are ſudorific.

PEUCEDANUM. *Hogs-fennel* is an umbelliferous Plant which is ſomewhat like *Fennel,* but its Leaves are very long, like *Common Graſs,* narrow, and flat, and ſubdivided into three: the Stalk is large and hollow. The Root is aperitive; the Juice pectoral, and cleanſes Wounds.

PHALANGIUM. The Leaves of this Plant are like thoſe of a large *Common-Graſs,* but greener like the *Cyperus-Graſs.* It very much reſembles the *Aſphodel,* but its Fruit is round, whereas that of the *Aſphodel* is triangular. Its Root is fibrous; and its Flower radiated. The Decoction of it is drunk againſt the Biteings of venomous Beaſts.

PHASEOLUS. The *Kidney-bean* has a papilionaceous Flower: its Pod contains Seeds in the ſhape of a Kidney; and its Leaves ſtand three at a place upon a Pedicle. It climbs, and twiſts it ſelf about the neighbouring Bodies. The Meal of *Kidney-beans* is put into reſolvent Cataplaſms.

PHALLANDRIUM. The *Water-Hemlock* is an umbelliferous Plant, cut very fine. Its Seeds are not ſo deep-

ly

ly chanelled, as thoſe of *Hemlock*. It is aperitive and diuretic.

PHYLLIREA. The *Phyllirea* and the *Alaternus* are two Shrubs which are alike: but the former has its Leaves by pairs; and the latter ſingle. Gargariſms are made of the Leaves and of the Berries, becauſe they are binding and cooling.

PHYLOMIS. This Plant, which is a ſort of *Mullein*, reſembles *Sage* in its Leaves, but has not the ſame Smell. The Flower has two Lips, of which the upper one is creſted, and wholely reſts upon the lower one. It is applied to Burns, and to the Piles.

PIMPINELLA. Burnet has ſmall ſerrated Leaves, by pairs along a Rib: its Flowers form Spikes; and its Seeds are quadrangular. An Infuſion of it in Drink provokes Urine.

PINGUICULA. Butter-wort has a Flower like the *Violet*, but it is mono-petalous. Its Stalks are naked; its Leaves lie upon the Ground, and are fat: it grows in Marſhes. Being bruiſed or beaten together with Butter, and applied to Wounds, it is an excellent Remedy.

PINUS. The *Pine-tree* differs from the Trees which are like it by its Leaves, which are faſtened by Pairs at the end, in a membranous Sheath; they are longer than thoſe of the *Wild-Pine*. The Seeds being eaten abate the ſharpneſs of the Urine. The Oil which is drawn from it is equal to the Oil of Almonds.

PISUM. The *Pea* has large and fiſtulous Stalks: its Leaves grow by pairs, which embrace the Stalk; and others ſtand by pairs upon a Rib, which has Tendrils, whereby it differs from thoſe which are like it. The *Pea* is round; its Flower is papilionaceous; and Fruit a Pod full of Peas which are eaten.

PLANTAGO. The *Plantain* has intire Leaves, fibrous in their length. Its little Flowers and Seeds form a ſort of little Tail of a Rat, more or leſs long. It is very aſtringent and vulnerary, and good for the Inflammations of the Eyes.

PLATANUS. The *Platane* is a great Tree, which has Leaves like the *great Maple*, but they are cut much deeper, ſo that they repreſent an open Hand. Its fruits are little prickly Balls: its tender Leaves applied to Tumours,

Tumours, and to the Inflammations of the Eyes, diſſolve them.

PLUMBAGO. Lead-wort is ſo called, becauſe its Leaves are of the Colour of Lead: they are ſerrated. Its Flower is mono-petalous, ſhaped like a Funnel, and cut into ſeveral Segments. It has oblong Seeds in a tubulous Flower-cup.

POLEMONIUM. Greek Valerian or *Jacob's Ladder* has Leaves like the great Species of *Myrtle*, which grow by Pairs all along a rib. Its Flower is a mono-petalous Roſe-flower: its Fruit is round, having two cells.

POLIUM. The Leaves of *Poley-mountain* are ſmall, thick, ſerrated, and cottony: the Flowers are Lips, ſeveral of which together form Cluſters at the end of the Branches. It is cephalic, and cordial; and enters the Theriack.

POLYGALA. Milk-wort has perſonated Flowers diſpoſed in a Spike: its Fruit is flat, having two Cells, and is infolded in the Flower-cup. It is ſaid that it increaſes Milk.

POLYGONATUM. Solomon's ſeal has fibrous Leaves: its Flower is a hollow Cylinder, without an Empalement: and its Fruits are round Berries. Its Stalk is pretty large, and furniſhed with Leaves. Its Fruits are emetic; and its Root applied to Contuſions diſſolves them.

POLYGONUM. Knot-graſs has long thin Branches, full of knots, and which creep upon the Ground very far all round the Root: its Seeds are triangular. It is diſtinguiſhed from *Rupture-wort*, in that the latter has millions of Seeds. The *common Knot-graſs* is very aſtringent.

POLYPODIUM. Poly-pody has the Face of *Fern*, having no Branches. Its Leaves are long, and cut to the very Rib in narrow parts, as it were by Pairs. It has no Flowers. The Decoction of it is good for the Kings-evil.

POPULAGO. The *Marſh Mary-gold* has a pretty large, round, ſmooth Leaf, almoſt like that of the *Colts-foot*. It has a little Roſe-flower, like the *Ranunculus* or *Crow-foot*. Its Fruit conſiſts of ſeveral Seeds diſpoſed in the manner of Rays. It is cooling.

POPULUS. The *Black Poplar* has Leaves like thoſe of the *Birch-tree*, pretty large, angular, and not cut: but the *Birch-tree* bears Cat-kins, and its Branches are very fine

and

and pliant. The Fruits are ſmall Pods. Its Leaves, bruiſed and applied to the Gout, aſſuage the Pain. The *white Poplar* has large, white Leaves, cut into Segments.

PORRUM. The *Leek* has large, long, and round Leaves, not hollow: thoſe of the *Onion* are hollow: and thoſe of the *Garlic* are tuberous, and not long. The *Leek* is applied to Burns, and to the Piles. It is ſuppurative.

PORTULACA. *Purſlane* has fat Leaves: its Flowers are yellow and poly-petalous, in a mono-petalous Empalement, cut in two. The Seed kills the Worms.

POTAMOGEITON. *Pond-weed* grows in the Waters. Its Flower conſiſts of four Petals, without an Empalement: and its Fruit is four Seeds. The ſpecies which has round Leaves cures Tetters, and other diſeaſes of the Skin.

PRIMULA VERIS. The *Prime-roſe* has ſimple and wrinkled Leaves: its Flower is a Tube cut into ſeveral Segments, in an oblong and chanelled Flower-cup. That Species which has a ſweet ſmell is uſed. The Flowers of it are conſerved; and a Water is drawn from them which is cephalic.

PRUNUS. The *wild Plum* bears little Roſe-flowers, and Sloes which are very aſtringent.

PSEUDO-ACACIA. This, with the other *Acacias* is a great Tree, the Leaves of which are oval without Inſections, and grow by pairs upon a Rib, which ends in one. It has papilionaceous Flowers; and its Fruits are Pods. The Flowers are emollient and laxative.

PSEUDO DICTAMNUS. The *Baſtard Dittany* is like the *white Hore-hound*: but the upper lip of the Flower of the latter forms two Horns, and is turned up; whereas that of the *Baſtard Dittany* is hollow and cut in two. It has the ſame virtues as *Dittany*.

PSYLLIUM. *Flea-wort* is a Species of *Plantain*; but it ſhoots up Stalks and Branches, which the *common Plantain* does not. It is cooling.

PTARMICA. *Sneeze-wort* might be eaſily miſtaken for the *Yarrow*; for it blows in the ſame manner, and its Flowers grow likewiſe in an Umbel at the end of the Branches; but the Leaves of the *Sneeze-wort* are intire,

or

or elſe cut very fine along a Rib. It is chewed for the Tooth-ache.

PULMONARIA. *Lung-wort* has rough Leaves, pretty much like the *Bugloſs.* Its Flower is a Tube cut into ſeveral Segments. It has four Seeds in a pentagonal Empalement. Its Leaves are ſometimes ſpotted: this ſpecies is very vulnerary.

PULEGIUM. The *common Penny-royal* has ſquare, downy Stalks, and round Leaves, like the *Sweet marjoram.* Its flowers have two Lips, and are verticillated. It is aromatic.

PULSATILLA. The *Paſque flower* is altogether like the *Anemone,* but each of its Seeds has a tail which reſembles the beard of a Quill. Lotions are made of it for ſcabby or itchy Perſons.

PUNICA. The *Pomgranate-tree* is a Shrub, which bears a large crowned Fruit, the Husk of which is thick and coriaceous, furniſhed with an infinite number of little Seeds, which are very aſtringent.

PYROLA. The *Winter-green* is called *Pyrola,* becauſe its Leaves reſemble thoſe of a little *Pear-tree.* Its roots are fibrous, and furniſhed with Leaves. It has a little Roſe-flower, out of which proceeds a crooked Style; and its Fruit is Pentagonal. The Infuſion of its Leaves is binding.

PYRUS. The *Pear-tree* has Leaves which are ſmoother, and of a brighter Green than thoſe of the *Apple-tree. Pears* are conical towards the Pedicle. They are binding when they are dreſſed.

Q.

QUAMOCLIT. This Plant is a Species of the great *Convolvulus* or *Bind-weed,* but its Flower is a Tube, whereas that of the *Bind-weed* is in the ſhape of a Bell.

QUERCUS. The *Oak* bears Acorns; the *Ever-green Oak* and the *Cork-tree* bear them likewiſe: but their Leaves reſemble thoſe of the *Holly,* being pointed. The Acorns taken in Powder are very binding.

QUINQUE FOLIUM. The *Cinque-foil* might be taken for the *Straw-berry Plant:* but the latter has but three Leaves upon a Pedicle; whereas the former has more.

Its

Its Flower is a ſmall Roſe-flower; and its Root is deterſive and aſtringent.

R.

RANUNCULUS. The *Crow-foot* bears a little poly-petalous Roſe-flower; and its Fruits grow ſeveral together in a heap. Its is cauſtic.

RAPA. The *Turnep* reſembles the *Navew*: but its Root is very large, and ſometimes bellies out. Its Seed taken in Powder kills the Worms.

RAPHANISTRUM. This Plant is like the *Navew*, but its Pod is compoſed of ſeveral pieces jointed. That Species which has a white Flower is deterſive.

RAPHANUS. The *Radiſh* has Leaves like the *Navew*, but its Roots are longer. The *common Radiſh* is eaten raw in the morning. It is very diuretic: and forces away Gravel, being taken, either in a Ptiſan, or in a Clyſter.

RAPUNCULUS. The *Rampion* has a mono-petalous radiated Flower: its Fruit has three Cells. Thoſe which are eaten in Sallads are grumous.

RHABARBARUM. *Rhubarb* reſembles a great *Dock*, the Leaves of which are large. Its Flowers grow in a Spike; and its Seeds are triangular, like thoſe of *Sorrel*. The Roots are purgative.

RAGODIOLUS. This Species of *Succory* has its little Fruits diſpoſed like the Rays of a Star.

RHAMNUS. The *Buck-thorn* reſembles the *Wild Plum-tree*: but the latter bears *Sloes*, which contain only one ſtone each; whereas the former bears Berries containing ſeveral Seeds. The Syrup made of the Juice of the Berries is an excellent Hydragogue, and ſpecific for the Gout. The Doſe is an Ounce.

RUS. *Sumach* is a Tree which bears great Cluſters, thick ſet, compoſed of ſmall, reddiſh four Seeds. Both the Leaves and the Fruits are very binding.

RICINUS. The *Palma Chriſti* has great broad Leaves, and cut into ſegments all round, like thoſe of the Fig-tree. Its Stalks are very high, and hollow. Its Fruits are triangular, prickly, and grow in Cluſters. Three or four of the Seeds are a violent Purge; but they muſt not be uſed, for they excoriate the Inteſtines.

ROSA. The *Roſe-buſh* is a prickly Shrub, which bears Roſes, and red, coriaceous Fruits. Its Leaves grow by Pairs upon a Rib. The damask Roſes and the white Muſcadines purge; and the latter very much in an Infuſion.

ROSMARINUS. *Roſe-mary* riſes like a little Shrub, the Leaves of which are like thoſe of *Lavender*, brown on the upper ſide, and white on the under, and are very aromatic. It has perſonated Flowers mixed among the Leaves. A Spirit is drawn from the Flowers, which is good for all the diſorders of the Brain; and a Conſerve is made of the Flowers. The Decoction of its Leaves is ſudorific.

ROS-SOLIS. The Leaves of *Roſa-Solis* or *Sun-dew* are very ſmall, a little glutinous, garniſhed with Hairs, and faſtened to long Pedicles. It is cordial, pectoral, and ophthalmic.

RUBEOLA. The *Petty-madder* might be taken for the *Ladies Bed-ſtraw*, for it has four Leaves at every Joint of the Stalks: but its Flower is a Tube cut into ſegments or ſlightly indented. The Flower of the *Cheeſe-rening* is a Baſin cut into ſegments. Gargariſms are made of the *Petty-madder* for the Inflammations of the Throat.

RUBIA. The Leaves of *Madder* ſurround the Stalks in whirls, or in the ſhape of a Star, growing out at every Joint thereof above four in number. They are rough; and its Fruit is compoſed of two twin juicy Berries. The *Dyers madder* has Roots which are aperitive and diuretic.

RUBUS. The *Bramble* is a prickly Shrub, which has Fruits like Mul-berries. Its Flower is a little Roſe-flower; and its Branches are very long, and full of Tendrils. Its Leaves are applied to the Piles. It grows in the Hedges.

RUSCUS. *Butchers Broom* is altogether like the great ſpecies of *Myrtle* by its Leaves; but its Flower is monopetalous, and in the Shape of a Bell. The *Myrtle* is aromatic. The Roots of *Butchers Broom* are diuretic. That Species is uſed which has a ſharp-pointed Leaf.

RUTA. *Rue* has pretty fat Leaves, ranged by Pairs along a Rib, and each Leaf is divided in three: they are ſmall, of a Sea-green Colour, and of a very ſtrong ſmell. The Fruit is generally four-cornered. The Leaves eaten with Wall-nuts are an excellent antidote againſt Poiſon.

RUTA

RUTA MURARIA. The Leaves of the *Wall-rue* are like those of the *Rue*, but they are rounded at the end; and its Seeds are under the back-side of the Leaves, like those of *Fern*. It has not the Smell of *Rue*. It is pectoral, and good for a Cough.

S.

SALICARIA. Willow-wort has a Rose-flower; and its Fruit is an oval Husk with two Cells. Its Leaves are long, and grow by pairs, and sometimes three or four together, from the Joints of the Stalks. Its Flowers stand in a Spike at the End of the Branches. It is good for the Inflammations of the Eyes.

SALIX. The *Willow* is a Tree which bears Cat-kins: its Fruit is cylindrical, and grows in the bosoms of the Leaves. Its Branches are long; and its Leaves in several Species long and narrow like the *Almond-tree*. It grows in moist places. The Water of its Leaves is drunk to allay the *Furor uterinus*.

SALVIA. Sage has its Flowers resembling Casques or Helmets, disposed in Whirls round the Branches. *Wild* and *Garden-Clary* have larger Leaves. It is aromatic. Its Smell makes it known. *Sage* is cephalic, good for the Nerves, and anti-vertiginous.

SAMBUCUS. The little Flowers of the *Elder* are small mono-petalous Rose-flowers, several of which together form a large flat Umbel, as well as its Fruits which are Berries. The young Branches of this Shrub are fistulous, and full of Pith, which has an ill smell. The Leaves are an excellent remedy, applied to Burns. The second Bark purges in an Infusion. The Oil which is drawn from its Seeds is emetic.

SAMOLUS. Round-leaved Water Pimpernel shoots forth, immediately from its Root, long, thick, and serrated Leaves. It has likewise Stalks about half a Foot high, upon which there grow Leaves, shorter and rounder than those which proceed immediately from the Root; and they have no Pedicles. It has small mono-petalous Rose-flowers. The Stalks are like those of *Purslane*. It is anti-scorbutic,

SANICULA. *Sanicle* is an umbelliferous Plant, which has its Leaves cut into ſeveral parts, to the very Pedicle. Its Flowers are little Roſe-flowers in an Umbel; its Seeds are ſeveral together, and furniſhed with ſharp points. It is a great Vulnerary, uſed both inwardly and outwardly.

SANTOLINA. The *Lavender-Cotton* has Leaves like the *Cypres.* Its Flowers are large heads, like thoſe of the *Days-eye* when the Petals are pulled off. It is aromatic. Both its Leaves and its Seeds in a Decoction kill the Worms.

SATUREIA. *Savory* and *Hyſſop* are very much alike, they have Leaves like *Roſemary* or *Lavender:* but the Flowers of the *Savory* grow in the Boſoms of the Leaves; thoſe of *Lavender* are in a Spike; and *Roſemary* is like a Shrub. The *Hyſſop* hath its Flowers turned onely on one ſide. It is aſthmatic.

SAXIFRAGA. The Flower of the *Saxifrage* is a ſmall Roſe-flower; and its Fruit has two Horns. It has Leaves like the *Houſe-leek*, but cut into three Segments at the end. It forces away Gravel.

SCABIOSA. The Flower of *Scabious* is a Head compoſed of ſeveral Tubes, like that of the *Knap-weed:* but its Seeds are crowned. The *Scabiòſa pratenſis hirſuta* is uſed. The Decoction and the Water of it are very vulnerary, as well as the Gum which is drawn by Inciſion.

SCANDIX. *Venus-comb* is an umbelliferous Plant, which has Fruits like thoſe of the *Cranes-bill,* which are a ſort of Needles; but they conſiſt onely of two pieces, whereas thoſe of the *Cranes-bill* have five. They grow ſeveral together, like a Comb to comb Wool. The common Species has its Leaves cut like thoſe of *Coriander.* The Decoction of it is aperitive and vulnerary.

SCIRPUS. The *Bull-ruſh* produces no Leaves, but it has Stalks without Joints, and which are ſmooth, round, and full of a white Pith. Its Seeds are triangular; and its Flowers are Filaments: whereas the Flowers of the *Ruſh* are ſmall Roſe-flowers, and its Seeds round. This Aquatic is aſtringent, and a little narcotic.

SCLAREA. *Common Garden Clary* reſembles the *Clary* called *Horminum*; but the upper Lip of its Flower is hooked

hooked like a Sickle, whereas that of the *Horminum* has a little Spoon, which ſeems added to the end of it. The Infuſion of this Plant is drunk for the hyſteric Paſſion.

SCOLIMUS. This Plant is a Species of the *Thiſtle*, which yields a milky Juice. Its Flowers are Heads which are yellow and ſemi-floſcular. Its Seeds are flat and aperitive.

SCORPIOIDES. The Plant called *Cater-pillars* has a papilionaceous Flower faſtened to a very long tail. It has a Pod rolled up like a *Cater-pillar*.

SCORZONERA. This Plant has a long ſquamous Flower-cup; and its Roots are large and long, which are eaten. The *Goats-beard* has not a ſquamous Flower-cup; but in other reſpects they are alike. Its Leaves are like *Common Graſs*. It is Sudorific, and expells Poiſon.

SCROPHULARIA. *Fig-wort* has a mono-petalous tubulous Flower: its Fruit has two Cells: its Leaves ſtand oppoſite; and are generally worm-eaten. The *Scrophularia purpurea* is in uſe, the Leaves of which are applied to the Tumours of the King's Evil to diſſolve them.

SECALE. *Rie* is more pointed, and ſmaller than Wheat: the former is greyiſh, and the latter yellow. The Meal of it is put into emollient and reſolvent Cataplaſms.

SECURIDACA. The *Hatchet-vetch* has a papilionaceous Flower; and its fruit is a Pod conſiſting of four ſquare pieces. Its Leaves grow by pairs along a Rib. The Seeds of the yellow Species is good for the Stomach.

SEDUM. *Houſe-leek* has fat Leaves: thoſe which are near the Ground form a kind of *Artichoke*. Its fruit is a heap of little Pods. There are ſeveral other Species, which have ſmall Leaves diſpoſed in the manner of Scales, and all together form a ſort of ſmall Cylinder, like that which is called *Prick-Madam*, which is eaten in Sallad. Their Flowers are ſmall Roſe-flowers growing at the end of the Branches. The common *Houſe-leek* is very cooling and aſtringent, and is an excellent Ingredient in Ointments for Burns.

SENECIO. *Groundſel* reſembles *Rag-wort*; but its Flower is only a ſmall Head of Tubes, without Leaves.

Rag-wort has Leaves like the *Star-wort* or the *Days-eye.* Clyſters are made of it, to mollifie and to aſſuage the Pains of the Stone-cholic, and likewiſe Cataplaſms to ripen Tumours.

SENA. This Plant has ſmall Leaves by Pairs along a Rib, which likewiſe ends in a Pair. It reſembles the *Colutea,* and is likewiſe purgative.

SERPILLUM. Mother of Thyme reſembles *Thyme,* but its Branches creep on the Ground; whereas thoſe of *Thyme,* ſtand upright. Topical Remedies are made of it for the Gout and the Palſy; and the Infuſion of it is drunk for the Wind.

SESAMOIDES. The Leaves of this Plant are like thoſe of the *Toad-flax:* its fruits are ſhaped like a Star: its Flowers conſiſting of unequal Petals become a Spike. It grows upon the Mountains. It is deterſive.

SICYOIDES. The whole Plant is pretty much like the *Cucumber:* but its fruits are leſs, ſticking ſeveral of them together; and furniſhed with Prickles.

SIDERITIS. The *common Iron-wort* has a yellowiſh, ſquare, and downy Stalk, with ſerrated Leaves, growing by pairs. Its Flowers have two Lips, of which the upper one is intire, and the lower one divided into three Parts. They are verticillated; and at every diſtance they are ſupported by two Leaves different from thoſe which are near the Ground. They have a bad ſmell. The *common* Species is vulnerary and aſtringent, and is uſed both inwardly and outwardly.

SILIQUA. The *Carob-tree* has Leaves like thoſe of the *Turpentine-tree,* but they are fleſhy. Its Fruits are very long, broad, flat, and fleſhy Pods. Both the Leaves and the Fruits are aſtringent; and the Juice is good for a Cough.

SILIQUASTRUM. This Shrub has Leaves exactly round, cut in the ſhape of a Heart toward the Pedicle, and which ſtand alternately. Its Flowers are papilionaceous; and its Pods flat, and not fleſhy. It is aſtringent.

SINAPIS. Muſtard reſembles *Rocket* or *Navew;* but if one chew its Pods, they have the Taſt of *Muſtard. Muſtard* applied to Tumours ripens and breaks them.

SISARUM. Skirret has ſmall Leaves by Pairs along a Rib. This umbelliferous Plant has its Roots like thoſe of *Navew,*

Navew, faſtened ſeveral of them together by the Neck: they are good to eat.

SISYMBRIUM. The *wild* Species has a Flower compoſed of four Petals. Its Fruit is a ſhort Pod with two Rows of Seeds. Its Root is a ſmall acrid Lump. Its Leaves are jagged, and ſtand alternately. This Aquatic is anti-ſcorbutic.

SISYRINCHIUM. This Plant differs from the *Iris*, and from the *Xiphion*, by its Root, which conſiſts of two Tubercules, compoſed of Coats laid one upon another. The *Siſyrinchium* of *Parkinſon* is in uſe. Its Roots are eaten, which are carminative, and aſſuage the Cholic. It ſends forth two or three Leaves, and three or four *Iris* on the Top of the Stalk.

SISUM. The *Water-Parſnep* is an umbelliferous Plant which grows in the Waters. Its Leaves ſtand by Pairs all along a Rib, which ends in one. The Seed is round. This Plant is acrid, and anti-ſcorbutic: it is eaten, or elſe the Juice is drawn from it.

SMILAX ASPERA. The Leaves of this Plant are like the *Bind-weed*, but prickly. It has a ſmall radiated Flower; and its Fruits are Berries. The Stalks are full of Tendrils, are prickly, and climb. That Species which has a red Fruit is ſudorific.

SMIRNIUM. *Alexanders* is an umbelliferous Plant, which differs from *Angelica* by its Seeds, which are larger. Its Leaves reſemble thoſe of *Smallage*, but they are bigger, and have the Taſt of Parſly. Decoctions are made of the Roots and of the Seeds, which are aperitive and diuretic.

SOLANUM. *Night-ſhade* has a ſmall mono-petalous Roſe-flower; and its Fruit is a Berry furniſhed with flat Seeds. The *Solanum officinarum* is uſed. Being applied to Cancers it ſoftens and aſſuages them. The Water diſtilled from it is applied to the Head of Perſons in a burning Fever, to cool them.

SOLDANELLA. *Soldanel* differs from the *Bind-weed* by its Fruit which is cylindrical, whereas that of the *Bind-weed* is round. Its Leaves yield a milky Juice. A Dram of its Powder purges away watry Humours.

SONCHUS. The *Sow-thiſtle* differs from the *Lettuce*, by its Stalks, which are brittler and tenderer; and by its Leaves, which have ſomewhat of the *Thiſtle*, being

furniſhed with ſoft prickles. It is ſoporiferous and cooling, like the Lettuce.

SORBUS. The *Service-tree* has Leaves by Pairs, all along a Rib, like the *Aſh-tree:* but its Fruits are like ſmall Pears, very aſtringent.

SPARGANIUM. The *Bur-weed* has Leaves like a great *common Graſs*, or like the *Mary-gold*, which have the Back raiſed up: but its Seeds are heaped together, and form little bouls, like thoſe of the *Platane*, on the Top of the Stalks. Its flowers are Cluſters of Filaments at the Joints of the Branches.

SPARTIUM. This Species of *Broom* differs from the others by its Pod, which includes only one Seed. Its flowers and its ſeeds are emetic.

SPHONDYLIUM. The fruit of *Cow-parſnep* conſiſts of two ſmall Plates or Membranes intirely flat and oval, which are cut hollow, and have two black Lines; by which it differs from the *Parſnep*. The *common* Species has downy Leaves, which are emollient; of which are made Clyſters and Cataplaſms. Its Leaves are very large and jagged.

SPINACIA. *Spinache* is like the *Dock*, but its Leaves are triangular and ſhort, whereas, thoſe of the *Dock* are long. It is emollient and nouriſhing.

SPIRÆA. This Shrub has ſmall Roſe-flowers, in a radiated Empalement, in long Spikes at the end of the Branches; and its fruit is a heap of ſeveral ſmall Pods. That Species which has leaves reſembling thoſe of the *Willow*, is aſtringent, both as to its leaves, and its flowers.

SPONGIA. *Spunge* is a ſoft porous Subſtance, which grows in the Sea. It is dipped in melted Wax, and left to cool in a Preſs, then little Pieces are cut off, which are put into Wounds to dilate them, and to ſoak up their humidities. It is mortal, if it be ſwallowed.

STACHYS. *Baſe Hore-hound* is ſomewhat like the *Nettle*, but it is white and downy, its Stalks, are ſquare, and its flowers are Tubes with two lips, verticillated. It is diuretic; and the Infuſions of it are drunk, to facilitate Delivery.

STAPHISAGRIA. The leaves of *Staves-acre* are large, cut into Segments, like thoſe of the *Palma Chriſti*, faſtened

to

to long Pedicles. Its flower is like that of *Larks-ſpur*. Its fruit is a Heap of Pods, which contain large triangular Seeds. Scabby or itchy Perſons are rubbed with the Decoction thereof. It kills lice.

STAPHYLODENDRON. The *Bladder-nut Tree* has leaves by pairs all along a Rib, like the *Aſh-tree*; and its fruits are large Bladders, like thoſe of the *Baſtard Sena*, divided into two Cells, each of which contains a Seed a little reſembling the Hazle-Nut, from which a reſolvent Oil is drawn.

STATICE. The *Thrift* reſembles the *Pink* by its Leaves; but its Flower is a great Head, compoſed of an heap of little Flowers, each of them in a ſmall Empalement; but the whole ſtands in a large Empalement, which is ſquamous. Borders in Gardens are made of this Plant. The Flowers are very aſtringent.

STOECAS. *Caſſidony* or *French Lavender* has at the end of the Branches ſquamous Spikes, and above them a Cluſter of Leaves, furniſhed with ſmall Tubes with two Lips. The Leaves are like thoſe of *Lavender*. That Species which has a red Flower is cephalic, and hiſteric; and is uſed both inwardly and outwardly.

STRAMONIUM. The *Thorn-Apple* is a great *Night-ſhade*, the Flower of which is a very large Tube, widened very much towards the Top. The Fruit is roundiſh and large, armed with long Prickles, and divided into four Cells. It is a great Narcotic: the Leaves are applied to the parts affected with Pain, and to Burns.

STYRAX. The *Wild Quince* pretty much reſembles the *Quince-tree*; but its Flower is a Tube cut into Segments on the Top, and its fruit is round. The Flower of the *Quince-tree* is a ſmall Roſe-flower; and the *Quince* is like the *Pear*. The *Unguentum Styracis* is made of it: it is emollient, and preſerves from Putrefaction.

SUBER. The *Cork-tree* is very much like the *Holly*, and the *Ever-green Oak*: but the *Holly* bears Berries, the *Cork-tree* Acorns, and the *Ever-green Oak* does not caſt off a very thick Bark, as the *Cork-tree* does. The Bark taken in Powder ſtops a Looſeneſs very well.

SYMPHYTUM. The *great Comfrey* has rough Leaves, like the *Bugloſs*. Its flowers are little Cups, which grow

ſeveral

ſeveral together as it were in a Cluſter. In the Flower-cup are four Seeds. Its Root is a great Vulnerary, and very lenitive. A Conſerve is likewiſe made of it.

SYRINGA. The flowers of *Lilac* are ſmall Roſe-flowers conſiſting of four Petals, which grow in a Cluſter on the Top of the Stalks, as well as its little fruits which are round, and wrapped up in the Flower-cup. Its Branches are pithy and brittle; and its Leaves are diſpoſed alternately, and are pretty much like thoſe of the *Pear-tree.*

T.

TAGETES. The *French Mary-gold* has Leaves growing by pairs all along a Rib, which ends in one. Its flower is like a great, yellow, ſtinking Pink, in a chanelled Tube. When the flower is double, the Gardeners, call it the *Indian Roſe.* It is ſaid to be dangerous.

TAMARINDUS. The *Tamarind* is a Tree, which grows very high, and bears thick, bloated, and crooked Pods, which contain Seeds, and a black, ſour Pulp. Its flower is a ſmall Roſe-flower; and its leaves reſemble thoſe of *Fern.* The Pulp in purging binds, and is cooling.

TAMNUS. *Black Briony* or *our Lady's Seal* is like the *Bind-weed,* or the *white Briony*; it climbs like the *Bind-weed,* but its flower is in the ſhape of a Bell cut into Segments, which the flower of the *Bind-weed* is not; and it has no Tendrils like the *white Briony.* Its fruits are Berries. The Root bruiſed and applied to Contuſions removes them very ſoon: it is the Remedy of the *Herbariſts* of *Paris.*

TAMARIX. The *Tamariſk* is a Shrub which reſembles the *Cypres*; but its Branches are fine, thin, very long, and its flowers are ſmall Roſe flowers. The whole Plant is good for the Spleen, and provokes the Terms.

TANACETUM. *Tanſey* is a little like *Yarrow:* its leaves are cut in the ſame manner, and the Segments are as it were by pairs, but they are much larger. Its flowers grow alſo in great Cluſters at the end of the Branch-

Branches, like thoſe of the *Yarrow*; but they have no Leaves, which thoſe of the *Yarrow* have, and reſemble the *Star-wort*. The common Species with yellow flowers is hiſteric, carminative, and kills the Worms, being uſed internally or externally.

TAXUS. The *Yew* is a Tree which is ſomewhat like the *Fir-tree*; but its leaves are diſpoſed like a Comb, which has Teeth on both ſides; whereas thoſe of the *Fir tree* ſtand confuſedly round the little Branches. The *Yew-tree* bears Berries, and the *Fir-tree* ſquamous Apples. The fruits of the *Yew-tree* throw Perſons into a Fever and a Dyſentery.

TELEPHIUM. *Orpine* or *Live-long* is very much like *Houſe leek*; but its leaves which are near the Ground, take not the form of the heads of the *Artichoke*, as thoſe of *Houſe-leek* do. Its leaves grow ſingle along the Branches. Its flowers ſtand in great Cluſters at the end of the Stalks. It is very aſtringent and cooling, being applied externally.

TEREBINTHUS. The *Turpentine-tree* has its leaves by pairs all along a rib, which ends in a ſingle leaf. Its leaves are larger than thoſe of the *Maſtic-tree*, and the Ribs of this latter end in two leaves. The fruit of the *Turpentine-tree* is hollow; and the *Turpentine* is a Balſam.

TEUCRIUM. *Tree-Germander* is ſomewhat like the *Common Germander*, but it does not creep, and is more ligneous. The leaves are green on the upper ſide, and white on the under. Its flower is a Tube ending in a lip, which ſtands in an Empalement ſhaped like a Bell. The *Teucrium peregrinum folio ſinuato* is uſed; the Powder or the Decoction of which is drunk, being good for the Spleen, aperitive, and reſolvent.

THALICTRUM. The leaves of the *Meadow-rue* are divided into three Parts at the end. It has ſmall Roſe-flowers at the top of the Branches. Its fruit is triangular, and its Seed chanelled. The *common* Species is uſed, the Decoction of which is good for the Spleen.

THAPSIA. This umbelliferous Plant has its Seeds cut hollow at each end, and bordered with a Membrane. The Root is a violent Purge; and yields a milky Juice, with which Itchy Perſons are rubbed.

THLASPI.

THLASPI. *Mithridate-muſtard* differs from the *Creſs* by its Leaves, which are ſimple, and without Segments. Its Flowers have four Petals. It has a round Fruit, which is bordered, cut hollow, and is acrid. The Seed applied to an Impoſtume breaks it.

THLASPIDIUM. *Baſtard Mithridate-muſtard* conſiſts of two Seeds intirely flat, faſtened together by the ſides, having a Filament between them. The Decoction of this Plant provokes the Terms.

THUIA. The *Arbor vitæ* is ſomewhat like the *Cypres*: both have ſmall Leaves diſpoſed in the manner of Scales; but the *Arbor vitæ* has them ſo as that the Branches form as it were the Wings of a Bird, being altogether flat; whereas the *Cypres* has them round. The Powder or the Infuſion of the Wood is ſudorific.

THYMBRA. This Plant reſembles *Thyme*; but *Thyme* has Flowers in Cluſters, whereas the *Thymbra* has them verticillated. It has a ſweet Smell; and is carminative and hiſteric, being uſed both inwardly and outwardly.

THYMELÆA. This is a very low Shrub, the Flowers of which are Tubes cut into four Segments; and its oblong Fruit contains a pretty long Seed. The Species which has Leaves like thoſe of *Flax* purges too violently.

THYMUS. *Thyme* is ligneous, it grows upright, and its Flowers form Cluſters at the End of the Branches: *Mother of Thyme* creeps on the Ground; in other reſpects they are alike. It is hot, cephalic, and carminative: the infuſion of it is drunk: it is applied to the Gout, and to the Palſy.

THYSSELINUM. This *wild Parſly* differs from the *Mountain Parſly*, which reſembles likewiſe *Parſly* in that it has a milky Juice. It is an umbelliferous Plant. The Leaves of that Species which is uſed are cut like thoſe of the *Carrot*. The Roots chewed aſſuage the Tooth-ache.

TILIA. The *Lime-tree* is a great Tree, which has two ſorts of Leaves: the great ones reſemble thoſe of the *Poplar*; the leſſer are oval, from the middle of which proceeds a Tail, at the end whereof there are ſeveral ſmall round Fruits. Cords are made of the ſecond Bark.

It

It has ſmall Roſe-flowers, which are anti-epileptic: its Leaves are applied to Burns.

TINUS. The *Lauruſtine* is a Shrub altogether green, which is like the *Bay-tree.* Its Flowers and its Fruits grow in Cluſters or Umbels, at the end of the Stalks: the Flowers are ſmall Tubes cut on the Top, and its Fruits are crowned Berries, which purge too violently, and therefore are not uſed.

TITHYMALUS. *Spurge* yields a milky Juice. It has a ſmall mono-petalous Flower cut into Segments, and ſupported by two Leaves. Its Fruit is triangular. The Root purges, as well as the Seeds, and evacuates watry Humours.

TORDYLIUM. This umbelliferous Plant bears little Roſe-flowers ſerrated all round.

TORMENTILLA. *Tormentil* is very much like the *Cinque-foil,* for its Leaves are generally ranged on a Pedicle, in the ſhape of a Hand ſpred open: but its Roots are tuberous, and the Empalement of the Flower is like a Baſin. The *wild* and the *common* Species of the *Alps* are very vulnerary, and ſtop vomiting. The Root is uſed.

TOXICODENDRON. This Tree has its Leaves by three at a Place upon a Pedicle, which reſembles thoſe of the *Virgin-Vine.* It has a ſmall Roſe-flower, and its Fruit is round and chanelled. It is venomous.

TRACHELIUM. The Flower of *Throat-wort* is a Tube cut into ſeveral Segments on the Top. Its Fruit is three-cornered, and has three Cells. Mr. *Ray* ſays, that the Leaves are downy.

TRAGACANTHA. The Leaves of *Goat-thorn* ſtand by pairs along a Rib, which ends in a Thorn. It has a papilionaceous Flower; and a Pod with two Rows of Seeds. It produces the Gum *Tragacanth,* which is lenitive, and good for a Cough, and for the Soreneſs of the Eyes. It muſt be diſſolved in Water.

TRAGOPOGON. *Goats-beard* and *Scorzonera* are alike: their Flowers are long, like thoſe of *Garlic,* but the Flower-cup of the *Goats-beard* is not ſquamous. Its Root is pectoral, and its Leaves vulnerary.

TRAGOSELINUM. *Burnet* is an umbelliferous Plant, which has a pretty long Seed, roundiſh on the Back, and chanelled. Several Species of this Plant have Leaves like the *Pimpinella.* The Decoction of it is vulnerary and diuretic.

TRI-

TRIBULUS. The Fruit of the *Caltrap* reſembles a *Malta*-croſs; and its Flower is a ſmall Roſe-flower. The *common* Species of *Caltrap* has its Leaves by pairs along a Rib, like the Lentil. The Fruit is binding.

TRIBULUS AQUATICUS. The Leaves of the *Water-Caltrap* reſemble thoſe of the *Elm*; and its Fruit is like a *Cheſnut*. It has a ſmall Roſe-flower. Reſolvent Cataplaſms are made of it.

TRICHOMANES. The leaves of *Engliſh Maiden-hair* are very ſhort, generally roundiſh, and by pairs upon a rib; and its ſeeds are under the leaves. It has the face of a ſmall *Fern*. This Capillary is pectoral, and good for the Spleen.

TRIFOLIUM. The leaves of the *Tre-foil* are ſpotted, and grow three at a place upon a Pedicle: and it has papilionaceous flowers, which form a great round ſpike. The red Species, which grows in the Meadows, is cooling and emollient, both inwardly and outwardly.

There is another Species of *Tre-foil*, which has a ſmall Roſe-flower, and a round, pointed, chanelled Fruit. Its Leaves ſtand three at a place; and end in a Thorn. It is called the *prickly Tre-foil.*

TRITICUM. *Wheat* and *Barley* are alike: but the former is yellower, and ſmoother, and leſs pointed at the ends. The Decoction of the Seeds is given to Infants. It is nouriſhing.

TUBERA. *Truſles* are large fleſhy Tubercules, which reſemble *Potatoes*: but the former produce no Plant, which the latter do. They are good to eat, and are very nouriſhing.

TUBULARIA. This Species of *Coral* differs from the *common* ſort, in that it is compoſed of a heap of Tubes. Half a Dram of the Powder is very binding,

TULIPA. The *Tulip* is known by every-body. Mr. *Ray* ſays, that it differs from the *Fritillary*, by its Root, which is one ſingle Tubercule; whereas the *Fritillary* has two; and its Leaves are much narrower than thoſe of the *Tulip*. The Root applied is reſolvent.

TURRITIS: Tower-muſtard. This Species of *Gilly-flower* differs from the *Stock-Gilly-flower*, by its Seeds which are not bordered; and from the *Dames-violet*, by its Pods, which are very flat, whereas thoſe of the *Dames-violet* are round. They have all a Flower conſiſting of four Petals,

Petals, like the *Cole-wort* or *Cabbage*. The Seed expells Wind.

TUSSILAGO. *Colts-foot* has a Flower like the *yellow Dandelion*, which comes before the Leaf. The Leaves proceed immediately from the Root, being large, cut in angles all round, and white and lanuginous on the under ſide. The *Butter-bur* has larger Leaves, and a Flower which is a Head compoſed of Tubes. The Flower of the *Colts-foot* conſiſts of Petals. Both the Flowers and the Roots being pectoral, given in a Ptiſan, cauſe Spitting.

TYPHA. The *Cats-tail* reſembles the *Reed*, or the Leaves of the *Cyperus*; but it ſhoots up a long round Stalk, at the end of which there is a great Cylinder or round Maſs, which is ſoft as Velvet. The Tops of it fryed in fat are good for Burns.

V.

VALERIANA. *Valerian* has ſmall mono-petalous flowers, ſhaped like a Funnel, and cut into ſeveral Segments, diſpoſed at the extremity of very fine Branches, as it were in Umbels or Cluſters. The Leaves ſtand by Pairs at certain intervals upon the Branches. The Seeds have at the end a little Down, by which they are carried in the Air. The *great wild Valerian* is in repute for the Epilepſy; the Roots of which are taken in Powder.

VALERIANELLA. *Lamb's-Lettuce* or *Corn-Sallad* is is eaten for Sallad in the Spring. It is clammy in the Mouth. The Stalks divide into two Branches, at every Joint. It has little Flowers ſhaped like a Funnel, and cut into ſeveral Segments, growing in Cluſters. The Flowers reſemble thoſe of the *Days-eye*. It is aperitive.

VERATRUM. The Leaves of the *white Hellebore* are furniſhed with a ſtrong ſinewy Band which extends their whole length; and they are folded lengthways. Its Flowers are ſmall poly-petalous Roſe-flowers in a Spike: its fruit conſiſts of three ſmall Pods: and its Seeds are pretty long and bordered. It differs from the *black Hellebore* by its Flowers, which have no Horns. The Root

is

is a violent Emetic; and Lotions are made thereof to wash Itchy Persons.

VERBASCUM. The *White Mullein* and the *Moth-Mullein* are alike. Their Flowers are mono-petalous Rose-flowers, which form large Spikes along the stalks, and round them. Their Fruits are round, having two Cells; but the Fruit of the *White Mullein* is more pointed. The *White Mullein* is very lenitive, and Clysters are made of it. The Leaves are applied to the Piles. The Water of its Flowers is excellent for the Scab, the Itch, and other diseases of the Skin.

VERBENA. The *common Vervein* sends forth generally long, fine, little Branches, along which are placed several little Flowers in a Spike, not verticillated, which are mono-petalous, having two Lips, and cut into several Segments. The Leaves are generally wrinkled, and cut very deep. The Juice newly drawn purges: the Leaves, bruised and applied to the Pains of the side, and to the Pleurisy, are excellent.

VERONICA. Several Species of *Veronica* are like the *Common Germander*, but the *Veronica* has a mono-petalous Rose-flower, whereas that of the *Common Germander* is labiated. The Fruits of the *Veronica* are small Purses or Bags with two Cells. The Male kind is in use. Its Leaves resemble the *Wild Plum-tree*, being downy, and serrated, and standing in pairs along the Stalks. The Flowers grow in a Spike. It is good to cleanse the Ulcers of the Lungs.

VIBURNUM. This is a Shrub, the Leaves of which are white on the under side, without any Segments; and the Branches long and flexible. The fruits are Berries a little flat, which grow in Clusters or Umbels. The Flowers are small mono-petalous Basins in Clusters. The *Viburnum Mattheoli* is used. The whole Plant is very astringent: Gargarisms are made of it for the Inflammations of the Throat.

VICIA. The *Vetch* is a Species of the *Pea*, but its Leaves grow by pairs all along a Rib, which ends in a Tendril. Resolvent Cataplasms are made of the Meal of these little *Peas*.

VIOLA. The Flower of the *March-Violet* has a Pedicle; and the Leaves are round. The Flowers of the *Simple Odoriferous Violets* are laxative, and their Leaves emollient:

emollient: Cataplaſms are made of them. The Emulſions of its Seeds made with the Water of *Veronica*, is a Secret to cauſe a Perſon to make Water.

VIRGA AUREA. The *Golden Rod* differs from the *Star-wort* in nothing but the ſituation of its Flowers, which are ſmall Roſe-flowers all along the Branches; whereas thoſe of the *Star-wort* grow only at the End. That Species which has narrow and ſerrated Leaves, is vulnerary, aperitive, and nephritic.

VISCUM. The *Miſleto* grows upon Trees; the fruits are Berries full of Glue; which purge violently, and are ſuppurative.

VITIS. The *Vine* is known by every-body: it bears Cluſters compoſed of Grapes, which are furniſhed with four Grape-ſtones each. The uſe of the *Vine* is infinite.

VITIS IDÆA. The *Whortle-berry* grows upon a Shrub, which has a flower in the ſhape of a little Bell. Its fruits are Berries hollowed in the ſhape of a Navel. They are aſtringent.

ULMARIA. The *Meadow-ſweet* and the *Goats-beard* are alike. Their Fruits are a ſort of Pods, which grow in a Spike, as well as their Flowers, which have four Petals; but thoſe of the *Goats-beard* have five. The Leaves of the *Meadow-ſweet* are wrinkled, ſeveral being placed upon a Rib, which ends in one, the ſmall Leaves being intermixed with the large ones. It is ſudorific, aſtringent, and vulnerary.

ULMUS. The *Elm* is a great Tree, which bears an infinite number of Fruits, which are only ſmall, round Membranes, cut hollow, intirely flat; and about the bigneſs of a Silver Peny, in the midſt of which there is a ſmall Seed. The Leaves are applied in Cataplaſms; they cleanſe Wounds, and diſſolve Tumours.

URTICA. The *Nettle* is prickly and ſtings: the *Horehound* and the *Arch-Angel* or *Dead-Nettle* are not ſo. The little Flowers of the *Nettle* grow in ſmall ſlender Spikes, which the others have not. The little *Roman Nettle* is very diuretic; and a Ptiſan made of it is excellent for the *Gonorrhæa*. The Juice of it being drunk ſtops the Spitting of Blood, and the Dyſentery. Cataplaſms made of it ſoften and diſſolve Tumours, and

the Pleuriſy. The Roots conſerved cauſe aſthmatic Perſons to ſpit, and thoſe who have an old Cough.

UVA URSI. This Plant blows in the ſhape of a little Bell, like the *Vitis Idæa*; and its Fruits are likewiſe Berries, but they are not hollowed in the ſhape of a Navel. Its Leaves reſemble thoſe of the *Box* which are radiated; and its Flowers grow in a Spike, at the Top of the Branches. The whole Plant is aſtringent.

VULNERARIA. The Fruit of the *Kidney-Vetch* is a Bladder containing a Capſule furniſhed with one ſingle Seed. It has a papilionaceous Flower. That Species which reſembles the *Bird's-foot Trefoil* is very vulnerary: its Leaves are ranged by Pairs along a Rib, being whiteiſh and downy on the under ſide.

X.

XANTHIUM. This *little Bur-dock* reſembles the *great Bur-dock* by its Leaves, or the *Butter-bur*: but its Flowers are Heads conſiſting of Tubes like the *Thiſtle*: its Fruits are oblong, armed with Prickles. It is uſed both inwardly and outwardly, for the Itch and the King's-Evil.

XERANTHEUM. This Species of *Knap-weed* has a radiated Flower; whereas that of the *Knap-weed* conſiſts of Tubes: its ſeeds are crowned with little Leaves. That Species which is uſed has its flowers white on the upper ſide. The flowers never fade, and are aſtringent.

XILON. The *Cotton-plant* is known by its Fruit, which has ſeveral Cells, furniſhed with that downy or ſilky ſubſtance called *Cotton*. The flower is in the ſhape of a Bell.

XILOSTEON. This Shrub has for flowers long Tubes by pairs, widened and cut on the top; and its fruits are likewiſe Berries by pairs. The *Dwarf Cherry-tree* has flowers with two lips, and fruits by pairs. The *Honey-ſuckle* has Flowers in the ſhape of a Hunters Horn. The fruits of the *Xiloſteon* are red, and are purgative and emetic. The Root is emollient.

XIPHION. This Plant differs from the *Iris* only by its Root, which is a tunicated bulbous Root. The Root of the *Iris* is not such.

Z.

ZACINTHA. This Species of *Succory* differs from the others, by its Flower-cup, which, after the Flower is fallen off, takes the form of a little Rose, of which every Petal contains a downy Seed. It blows like the *wild Succory*: and it cures Warts.

ZISIPHUS. The *Jujube-tree* is a Shrub armed with Prickles. Its Fruit resembles an *Olive*, which contains a rugged Stone. Its Leaves are serrated, and of a bright green colour. Its Flowers are small Rose-flowers which grow out of the Bosom of the Leaves. *Jujubes* are put into a Ptisan for a Cough.

CONCERNING

Reports in *SURGERY*.

A Report in Surgery is an Account by Word of mouth, or a Certificate in writing, given in Court, concerning the State of a human Body, living or dead.

In order to make the Report of a Surgeon valid, it muſt be conformable to the Diſeaſe reported; it muſt be affirmed to be true by the Surgeon himſelf, who has the Character of a Maſter; and who has once taken a general Oath for the Validity of all his Reports, that he may not be obliged to ſwear to every particular Report which he ſhall make during his Life. Reports ought to be made very conſcienciouſly: for otherwiſe they are the occaſion of falſe Judgments, for which the Surgeon muſt make ſatisfaction to his Neighbour, and is accountable to God. Therefore he muſt take great care, that he be not ſeduced by the Preſents of the Patients, or by the Intreaties of their Friends. He muſt examine the Diſeaſe himſelf, and not have any Complaiſance for his Brethren of the ſame Profeſſion. He muſt not averr any thing, ſolely on the account of the Pains, or of the Complaints of the wounded. He muſt uſe all his care to diſcover the artifices and tricks of the Patients: ſuch as the Blood with which they may have beſmeared the Parts; the ſeeming Contuſions made by rubbing the Body with leaden Oar; a Fever cauſed by drinking ſpirituous Liquors; an irregular Pulſe by having tied the upper Part of the Arm very hard; a Belly puffed up like a Drum, by having had Wind blown in at the Anus, and the Anus ſtopped with Tow; an Inflammation and an Ulceration upon a Part, cauſed by the Application of cauſtic Herbs; *&c.* The Surgeon muſt not raſhly pronounce with Aſſurance, concerning the Life or the Death of the wounded Perſon; which are Things too

un-

uncertain. He muſt ſpecifie preciſely the Length, the Breadth, and the Depth of the Wounds; whether they penetrate into the Cavities; what internal Parts are wounded: he muſt take notice of the true Symptoms which ſhall appear; what is to be hoped or to be feared: he muſt obſerve, with abundance of exactneſs, whether the Wounds are the true Cauſe of the Perſons Death, or other accidents with which they have been attended. For this Information is ſo much the more neceſſary, becauſe the wounded Perſon might die of a Diſeaſe which he had before he received the Wound; and he who wounded him might be proceeded againſt, as if he was the real Cauſe of his Death. He muſt obſerve, whether the wounded Perſon was found ſtanding or lying; whether he was incapable of attending his own Affairs: and he muſt expreſs himſelf in clear and intelligible Terms, in order to give the Judge the Information neceſſary to enable him to judge with Equity.

The Surgeon ought to mention his Quality, as Surgeon of the King, or of a Prince; the Place of his Freedom and Settlement; the Date of the Month, and of the Year; the Quality of the Patient, the Place of his Reſidence, the Street, and the Sign if there is one: if the Patient be a Woman, the Quality of her Husband; if a Child, of the Father; if a Servant, of the Maſter; the Inſtrument with which the Wound was made; that the wounded Perſon complains of ſuch Pains, and not that they are certainly real. If the Hurts are ſuch as a Woman was unwilling to ſhew, it muſt be ſaid, that her Modeſty would not permit her to ſhew them: and the Surgeon muſt not viſit an unmarried or married Woman, but in the Preſence of ſome other Woman.

When a Report is to be made for a young Woman who complains that ſhe has been raviſhed, it is neceſſary that ſhe be very young: for after a certain Age, one can know little or nothing of the matter.

There are certain Reports which are called *Exoines*, which are only lawful Excuſes, to procure a Diſpenſation from ſomething, as for an Eccleſiaſtical Perſon, who would obtain a Diſpenſation from his Biſhop, as to the Exerciſe of the Functions relating to his Benefice; for a Soldier, who is deſirous to leave the Service, *&c.* The Surgeon muſt examine well their Reaſons; and make a ſincere Repreſentation of them to their Superiors.

Some

Some Examples of REPORTS.

I. Report concerning a Wound in the Head.

REported by me *John Meunier* formerly Surgeon to the late Queen, ſworn at Paris, this 15th of *May*, 1702. I was ſent for to the Ruë *Drupine*, to the Sign of the *Sundial*, to ſee M. *Jary*, Hoſier, whom I found in Bed, by reaſon of a great Wound in his Head, in the middle of the left Parietal; four inches in length, upon which I made a long crucial Inciſion, becauſe the *Cranium* ſeemed to be fractured; and one may reaſonably think that the Meninges or Membranes which wrap up the Brain are hurt, becauſe the ſaid M. *Jary* has a Fever, blood-ſhot and inflamed Eyes, and vomited very much in my preſence; and becauſe that M. *Thuillier*, ſworn Surgeon, who laid on the firſt Dreſſing, has aſſured me, that he ſaw him void Blood at the Noſe and the Ears, which makes me think that he is in very great Danger, and likely to fall into a Frenſy and Convulſions, which Death may ſoon follow. And that which makes me ſtill judge of the greatneſs of his danger, is, that he himſelf told me, that he fell into a very deep Pit, and that his Head ſtruck againſt a great ſtone, where he remained without Underſtanding and Senſe. Upon which account I cauſed him to be blooded, and ordered that he ſhould take his Reſt for a good while, and that the Trepan ſhould be uſed; not being able however to anſwer for his Life 'till forty Days are paſt. This I certifie to be true, in teſtimony whereof, I have ſigned this preſent Report. At *Paris* the Day and Year above-written.

JOHN MEUNIER.

II. Report concerning a ſlight Hurt.

REported by me *Peter Picque*, Maſter, and ſworn Surgeon, and Clerk of the Reports in the City and Juriſdiction of *Angers*, That this 12th day of *May* I was required to go to the Ruë *de la Poiſonnerie*, to viſit *Mary Gaillard*, Fiſh-woman, on the account of the Bruiſes which ſhe ſaid ſhe had received yeſterday. The which *Mary Gaillard* I found having both her Eyes black and blue, with an Excoriation on the Cheek, ſaying, that ſhe felt great Pains over her whole Body, by reaſon of the Kicks and Blows which ſhe

ſhe had receiv'd. On the account of which Bruiſes we ordered her to be blooded, and that a reſolvent Cataplaſm ſhould be laid upon her Eyes, to prevent the Fluxions and Inflammations which might happen. In teſtimony of which, we have ſigned the preſent Report, to be of ſervice to her as far as reaſonably it may. At *Paris* the Day and Year above-written.

PETER PICQUE.

III. Report concerning a great Belly.

REported by me *James Pivert*, Surgeon, Man-Mid-wife, *&c.* this 10*th* Day of *May*, 1702. I went to the Ruë *d'Anjou*, to viſit Mrs *Frances Brunet*, Wife of M. *Guibert* Advocate in Court, whom I found in Bed, ſaying, that ſhe was with Child, and felt great Pains about the Loins, accompanied with a Loſs of Blood. She had a pale Countenance, a languid feeble Look, fainting Fits, her Thighs and Belly marked with ſeveral Contuſions, her Womb ſunk down, looſened, and imbued with a Moiſture which began to ſmell very ill: which makes me judge, that the Child of the ſaid Mrs *Brunet* is dead in her Belly, and that ſhe will be brought to bed very ſoon with the hazard of her Life, ſhe having not gone above three Months of her Time; which I concluded to be ſo from the Tenſion of her Belly, and by the other uſual ſigns. For which reaſon, I preſcrib'd to her the Cordials neceſſary in the like Caſe. All which I certifie to be true. In teſtimony whereof I have ſigned this preſent Report. At *Paris* the Day and Year above-written.

JAMES PIVERT.

IV. Report concerning Virginity.

REported by me *Maurice Quentin*, ſworn Surgeon at *Tours*, and Ordinary of the Officialty of the ſaid City, That this day being the 15*th* of *April*, 1702, by the Order of Monſieur the Official, I went to the Village S. *Ouin*, to viſit *Margaret*, the Daughter of *Peter Georget*, Gardener, living at the ſaid Place, and being about twelve Years of Age, to judge of the State of her Virginity, which I did in the preſence of *Magdalen Georget*, her Mother. I found the Caruncles bloody, excoriated, and ſeparated far from one another, the *Vagina* dilated and bloody, which makes me of opinion, that ſhe has been defloured by force and violence. For which Reaſon I preſcribed her deſiccative and aſtringent Remedies, proper and convenient in the like Caſe: which I certifie to be true. In teſtimony whereof I have ſigned this preſent Report, to be of ſervice to the ſaid *Georget*, as far as reaſonably it may.

MAURICE QUENTIN.

V. *Report concerning a Body found dead.*

REported by me, ſworn Surgeon, Clerk of the Reports in the City and Juriſdiction of *Orleans*, That this Day being the 12*th* of *July*, 1700. in execution of the Order of M. the Lieutenant-Criminal, I went to the Houſe of *Sebaſtian Pivert*, Labourer, in the Pariſh of S. *Aubin*, whom I found dead in a Barn, hanging on a Joiſt by a middle-ſized Cord. Having cauſed him to be taken down, and having examined his Neck, I found by the blackneſs and blueneſs of it, by the Snot and the Foam which proceeded from his Noſe and his Mouth, and by the livid Colour of his whole Face, and of his Arms and Legs, that he had either hanged himſelf, or that ſome other Perſons had hanged him up alive, and ſtrangled him, by means of a ſlip-Knot which I found in the Cord: all which I certifie to be true. In teſtimony whereof I have ſigned this preſent Report, the Day and Year above-written.

☞ *When the Signs above ſpecified do not appear, the Report ought to be, That the Body was not hanged up 'till after it was dead.*

VI. *Report concerning a Body drowned.*

REported by me ſworn Surgeon, Clerk of the Reports in the City and Juriſdiction of S. *Denis*. That this preſent Day, the 6*th* of *June* 1703, by order of M. the Lieutenant-Criminal, I went to the Bank of the *Seine*, to view a dead Body, which had been drawn out of the Water ſome hours before; the Belly of which I found very much ſwelled and full of Water, the Skin off from the Ends of the Fingers, the Face livid, the Fore-head excoriated, the Mouth foaming, and the Noſe emitting a bloody and frothy kind of Snot: which makes me of opinion, that the Perſon either fell, or was thrown into the Water alive, where he was afterwards drowned: all which I certifie to be true. In teſtimony of which, I have ſigned this preſent Report, at S. *Denis*, the Day and Year above-written.

☞ *When the ſigns above-mentioned, or moſt of them, do not appear, it ought to be reported, that the Body was dead before it was thrown into the Water. The Blows which the drowned Perſon might have received before, are neither bloody, nor livid.*

F I N I S.

CAT.

A DESCRIPTION OF BANDAGES AND *DRESSINGS*,

According to the moſt Commodious Ways now uſed in *France*.

Written in FRENCH by

M. *Le Clerc*, Phyſician in Ordinary to the *French* King, and Author of the *Compleat Surgeon*.

Tranſlated into ENGLISH, with Forty Copper Plates repreſenting the Figures of the ſeveral Parts of each Dreſſing.

LONDON:
Printed for J. and J. BONWICKE and R. WILKIN in St. *Paul's* Church-yard, J. WALTHOE and T. WARD in the *Temple*. MDCCXXVII.

Hannah The daughter of Wm. and Hannah Holden: Was Born Decem^r the 10:th Anno Domini: 1735:

Being Wednesday: about 10: o Clock fore noon a very pleasint Day:

~~Departed this life March 12:th 1738/9 about half hour after 11 o Clock~~

Samuel the Son of William & Hannah Holden was born at bridgewater Novem^r: 26: it being on Saterday Evening a Coth Eleven o Cock: in the year 1737:

Hannah Holden Departed this life March 12:th: Anno Dom: 1738/9: — about 1/2 hour after Eleven a Cork it Being wednesday: afternoon aged three years three months & four days

William The Son of Wm and Hannah Holden Born Octo^r: 30:th 1734: about Half an Hour after two: afternoone: a pleasant Day: — — — — — — —

THE PREFACE.

THE Article of Bandages and Dreſſings make up one neceſſary and conſiderable Part of the Inſtitutions of Surgery.

The Buſineſs of this Art is by the Help of proper Operations to remedy ſome Defect incident to Human Bodies. We muſt not think the Uſe of Inſtruments alone can do this, without a due Care be taken after. This Application of fit and proper Things it is which we call Dreſſing: The whole Order and Method of which our Author has endeavour'd to teach in this little Volume.

Bandages, in ſome Caſes, are the chief, in ſome the ſole Cure: In ſome they ſerve only to certain Remedies: In others they are Remedies themſelves. The full Deſcription of all there, is a ſpacious Field. They are vary'd according to the different Conditions of the Part and Malady, and there is large Scope for Invention. This Task has

been undertaken by *Galen*, and after him by *V. Vidius*, and others, who have handled it with great Accuracy. Their Diſcourſes on this Subject are indeed exquiſite, but by no means proper to be put into the Hands of young Students, or others who have not Leiſure to conſider the great Numbers deſcrib'd by them. Beſides, many of theſe are unneceſſary, others complicate, and therefore leſs fit for general Uſe, the moſt ſimple being ever to be prefer'd. It ſeems therefore in ſome manner needful, that a ſmall Treatiſe ſhould be compiled, which might contain the beſt and moſt uſeful, laying aſide the reſt; and this, in my Opinion, *M. Le Clerc* has done with no ſmall Profit to (eſpecially younger) Surgeons. Here the Reader will find a compleat Sett of the moſt ready and convenient Bandages and other Dreſſings, according to the Ways now uſed in the Hoſpitals of *France*. Theſe, in the main, are the ſame made by our *Engliſh* Surgeons; and where they differ, the Reader is at his Liberty to chuſe the moſt commodious, and moſt agreeable, to the Ends for which they are deſigned.

This ſmall Book is the more valuable, becauſe it is the only Piece I have met with, which expreſly treats of this Subject.

There are many Volumes of Chirurgical Operations, Treatiſes of Tumours, Wounds, and Ulcers, of divers Operations, Medicines, *&c.* However, moſt certain it is, all the reſt is fruitleſs without a fit Dreſſing concur to effect the Cure. Beſides, from the Management of this Part, the Vulgar, who judge of Men by their Out-ſide, form a good or ill Opinion of an Artiſt: If he make his Dreſſings dexterouſly, they are pleaſed, and commend him: On the contrary, if he do any thing amiſs here, they are

incens'd, and blame his Want of Skill and Practice; and thus often ingenious Men lose Reputation for a trifling Fault.

I shall only mention one Advantage of this Treatise, that it is small and portable, and therefore fit for Learners, for whose Benefit chiefly this Manual was compos'd, who may carry it in their Pocket, and make it their familiar Companion. But I fear to tire the Reader with a tedious Preamble, and therefore shall detain him no longer from perusing what is contain'd in it.

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PRE-

PREFACE.

General Directions for Dreſſing.

THOSE who intend to treat orderly of any Art or Science, muſt begin with the moſt general Matters, that they may not be obliged to repeat the ſame Things too often.

Nothing can give a Patient more Satisfaction, than to ſee his Dreſſings neatly made: This makes him think he has the good Fortune to fall into the Hands of a ſkilful Artiſt, and has nothing more to deſire. On the contrary, if the Dreſſings be ſlovenly, beſides the dangerous Accidents which follow, the Patient is diſturbed, vexes, and frets; and theſe Paſſions are the Cauſe of a great many other ill Symptoms.

The Cure is a Matter which none can judge of, but one of the ſame Profeſſion; and few People are able to diſcern the Faults committed in it; but all the World, by caſting their Eyes on the Dreſſings, judge whether they are well or ill made. Thus does the Reputation of a ſkilful Perſon often depend on a Trifle; and it is this which is more neceſſary for the moſt part than real Merit.

When a young Student in Surgery caſts his Eyes on the numerous Bandages deſcribed by *Galen* in his Book *de Faſciis*, he preſently deſpairs to learn them; and there is no Country-Surgeon who dares ſo much as think of it; and this is the Cauſe why ſo neceſſary a Part of this Art is often neglected.

To remedy this Evil, I have compoſed this Manual, which I hope will be acceptable to Young Men; for whoſe Uſe it is chiefly deſigned.

I have laid down all the convenient Dreſſings which are of uſe in Chirurgical Operations, from the Head to the Foot; and becauſe they are very embarraſſing, I have ſeparated all the ſmall Pieces, and put Numbers to each of them, ſhewing the Order in which they are to be apply'd.

The Young Surgeon, by this means, may always have the moſt uſeful before his Eyes; and, at one View, ſee how each Part of them follows the other, and may cut them out in great on every Plate, according to the Pattern there graven in little; that ſo he may have them ready when he ſhall be called to take charge of any Patient.

I have brought all Bandages to ſo ſmall a Number, that no Perſon hereafter can reaſonably excuſe himſelf, or deſpair of learning them.

I have reduced all thoſe of the Head to two, *viz.* the *Folded Handkerchief*, and the *Sling with four Tails*; ſo eaſy to apply, that any one may do it; all thoſe of the *Thorax*, to the Napkin; and all thoſe of the Limbs, to ſeveral Convolutions of a Roller, which I call *Rounds* and *Edgings*.

Beſides theſe, there are ſeveral Compound-Bandages, but ſo eaſy to apply, no one can want Inſtructions for the Uſe of them.

Bandages are theſe apply'd; and Fillets and Rollers are Pieces of Linnen-Cloth, very narrow in regard of their Length, which ſerve to bind Remedies on the Part to which they are apply'd.

The Compound Ones are ſuch to which other Pieces are ſtitch'd.

The Circular or Round Bandage is when a Part is ſo rolled, that the Turns above do exactly cover thoſe beneath.

A Bandage is ſaid to be *with Edgings* when the Roller is carry'd up or down obliquely, and the firſt Turns are not cover'd by the next, but more or leſs of the Turns beneath may be ſeen.

A Bandage is ſaid to be Creeping, when a Roller is ſo brought round a Part, that the Turns do not touch one another, but there is a Space left between each of them. This is uſed when the Surgeon would avoid Streightening the Part, as in great Inflammations, when only ſome ſlight thing is required to keep Remedies on.

There are ſome Caſes in which Bandages are Remedies of themſelves; and there are others where they ſerve only to keep on other Applications.

The latter are term'd Contentive: Of the former ſort, are rolling a Diſlocated or Fractured Part; for tho' Remedies be apply'd, this is only by Accident, as Oxycrate is to prevent Fluxion, or the like.

When a Part is to be rolled, take care to end with a Round or two about it, and always turn back the End of the Roller; for, beſides that the Bandage is neater, it is more ſecure, ſince the Roller may break through the Threads at one End, (which is of great Conſequence, eſpecially in Fractures,) for it is the Roller which keeps on the other Dreſſings.

Rollers ought to be made of very ſtrong Cloth, for fear they ſhould break; and yet this muſt not be too new, or ſtiff. They muſt not have any Liſts, for theſe do not ſtretch, and being firmer than the middle of the Roller, they ſtrengthen the Sides, and the other Part gives way, which is of very great Conſequence, eſpecially in Fractures; for the Middle of the Roller being ſlack, and not ſupporting the two Ends of the fractured Bone, they recede from each other, and then the Patient muſt be lame, or have his Limb diſtorted.

In all Fractures and Luxations, the Rolling ought to be ſtreight, to keep the Bones in their Situation when they are reduced, and yet not ſo as to hinder the Circulation, for then the Part will be defrauded of its Nouriſhment, and there will be danger of a Mortification.

It may be concluded the Bandage of any Limb is too ſtreight, when the Veins beyond are exceedingly ſwoln; and in this Caſe the Dreſſings muſt be taken off, and made a-new. When there is only a ſmall Riſing of the contiguous Parts, and the Veſſels are very little, or not at all tumify'd, the Bandage may be judged to be in a very good Condition.

If after the Bandage there be no Riſing of the neighbouring Part, and the Patient complains of nothing, and is very eaſy, the Dreſſing is too ſlack, and muſt be taken off; for however the Patient ought not to ſuffer much Pain when the Part is bound up, yet he ought to feel ſome, and not be altogether at his Eaſe.

If the Patient feel too much Itching under his Dreſſings, they muſt be taken off, and the Part bathed with *Oxycrate*, to allay this troubleſome Symptom: However, the Surgeon ought not to heed the firſt Complaints, but muſt wait to ſee if he perſiſts, and only wet the Dreſſings with a little *Oxycrate*, to appeaſe the Itchings, without taking them off, if it may be.

A Roller is ſaid to have but one Ball or Head, when it is rolled up at one End only, and two when it is rolled up at both.

Whilſt you are uſing it, the Roller muſt be as little unrolled as may be, becauſe if much be undone, you cannot be Maſter of it, which is very troubleſome, and it cannot be ſtraiten'd ſo much as is neceſſary.

When you make uſe of a Roller with two Heads, and would paſs one End of it over the other, to make Rounds on the Part, you muſt unroll a great deal, that ſo fetching it a great way, one End may go over the other ſmoothly, and by this means the Place where the two Ends of the Roller paſs over one another cannot be diſcerned, and the Rounds will be very neat.

In the rolling a Part which is of an unequal Thickneſs, as the Leg for Inſtance, which is bigger about the Calf than in the Small, there is a ſort of Pocket formed in bringing every Round of the Roller. To avoid this, make a Reflexion where this would happen; that is, lay your Finger on the Roller, where you would bring it back, then turning your Hand, by a Pronation of it, make a Pleat; and this is called a Reflexion, and is to be done once in every Turn, while the Part con-

continues to leſſen, unleſs you ſhall rather chuſe to guard the Part with circular Compreſſes graduated.

When you begin a Bandage, you muſt always take care to make it ſteady by two Rounds about the Part, and then make your Edgings.

When you make a Bandage with a Roller with two Balls or Heads, apply the Middle, and let the two Heads be on the upper Side of the Roller.

When you roll a Fractured Part, you muſt never leave it, that is to ſay, you muſt keep it with one Hand whilſt you bring the Roller round with the other; and when you ſhift the Ball from one Hand to another, you muſt have the other Hand on the Part, and do this alternately, for fear leſt the Bones ſhould ſlip out of their Place if they were not ſupported.

When you apply Dreſſings on a hairy Part, you muſt not forget to ſhave it, otherwiſe the Emplaiſters ſticking to the Hair, would create a great deal of Trouble in the taking them off; beſides, theſe hinder the Remedies from taking Effect, and the Slovenlineſs of this would offend the By-ſtanders.

The more naſty any Buſineſs is, the more neceſſary is it to do every thing neatly; and therefore when you take off any Pledgits or Emplaiſters, take care not to throw them on, or under the Bed, or on the Floor, for fear you meet with ſome Affront from the Servants, but rather order a Chair or Plate to lay your Dreſſings on. Take care to double the Emplaiſter, that the By-ſtanders may not ſee the *Pus*, which would offend them, and make them condemn you as a Sloven. And when you look upon the Pledgits, which you muſt not fail to do, that you may judge of the Quality of the *Pus*, and the Condition of the Wound, this muſt be done with a Caſt of an Eye, and dexterouſly concealed from the Perſons by, that it may not give Offence to them.

Before you take off the Dreſſings, you muſt always cleanſe the Edges of the Wound with the Side of your *Spatula*; for if you ſhould defer this till afterward, you would leave it too long expoſed to the Air, and this would be dangerous, becauſe the Nitre fixes in it, and its Cauſtick Salts corrode the Wound; and if you ſhould omit to cleanſe it at all, ſmall Ulcers would

orm themſelves under this Cruſt, which you would not diſcern.

Before you take off one Dreſſing, the other muſt be in a Readineſs, that ſo the Wound may not be left open; and if, after it be open'd, there ſhall remain any thing to be done, lay a Rag over it to defend it from the Action of the Air.

You muſt never wipe an Emplaiſter, and apply it a ſecond time to the Wound; for, beſides that is ſlovenly, it is impregnated with ſeveral Acids from the Wound, which will re-enter it, and increaſe the Malady.

When the Rollers have imbibed much of the *Pus*, you muſt put them in a Bucket, and not dry them at the Fire, as is done in ſome Hoſpitals; for this is a dangerous Practice, for the Reaſons above-mention'd.

To take off the *Pus* from a Wound, you muſt not wipe it, but lay a Rag of fine Linnen on it, and preſs this ſoftly with a little Lint, eſpecially when the Wound begins to look well; for if you ſhould wipe it, you would in a very ſmall time undo what Nature has been a long time finiſhing.

If there be no Sinuoſities, you muſt ſyringe it with ſome convenient warm and ſpirituous Liquor, rather than perſiſt to cleanſe it with Rags and Tents, which cannot be done without Pain.

When you take off an Emplaiſter, take hold of it by one Corner, and draw it off pretty quick. If you ſhould draw it haſtily, it would create too much Pain, which is to be avoided as much as may be; and beſides this, you might carry away with it ſome of the new-form'd Fleſh: On the contrary, if you ſhould do this ſlowly, you would keep the Patient too long on the Rack; and therefore you muſt obſerve a Middle between the two Extreams.

Remember ever not to apply Dreſſings dry on a Fracture or Diſlocation, but ſteep your Roller, Compreſſes, *&c.* in Wine well warm'd, or Oxycrate; for ſo every thing will ſit more cloſe and neat; and theſe Liquors ſerve as Defenſatives to ſtrengthen the Part, and prevent Fluxion.

For the greater Neatneſs, take off the Pledgits which have the *Pus* on them with your *Forceps*, to prevent fowl-

fowling your Hands, which would be offenſive to the By-ſtanders.

Lint is made of old Rags, and yet they muſt not be too much worn neither; becauſe the Threads breaking, and being too ſhort, the Pledgits are harder to make, and do not hold ſo well together.

To make Lint, (for I ſpeak to young Learners who know nothing at all) cut bits of Rags ſquare, as large or larger than the Palm of the Hand; take one of theſe Bits in your Left Hand, and with the other draw it Thread by Thread; if the Pieces of Cloth be too large, the Threads cannot be ſo well drawn. Theſe Threads you muſt range by the Sides of one another, and not entangle them; for when they are mixed together, it is hard to make handſome Pledgits.

Take a Handful of the Lint, more or leſs in proportion to the Pledgit you would make, and comb or draw it in the other Hand, clapping your Thumb on it to keep it whilſt you are drawing it. Obſerve that the Threads muſt by no means be placed all parallel, that is, one by the Sides of the other, but muſt croſs from time to time, to keep the Pledgit the better together. When you have well enough drawn the Lint, turn it quite round to raiſe the Ends of the Threads, and caſt them back with your Thumb, or the Back of your Hand over the Pledgit; when this is done, apply it on the Back of the Hand, and with the Flat of the other Hand rub it till it be firm and cloſe.

Pledgits are made round, long, or oval, as Occaſion requires.

To make a Doſſil, take the Lint in your Right Hand, and draw it between your Thumb and the Fore-Finger of your Left Hand, in Proportion to the Bigneſs you would have the Pledgit of; bend this ſmall Packet in the midſt, and raiſe the Ends, and roll this Doſſil very ſtrongly between both Hands, to make it firm. It is a Rule, that you muſt always tie the Doſſils in the middle with a Thread, when you put them into Wounds where you think it will be difficult to draw them out, or apprehend that you may forget and leave them in, as it happens in deep *Sinuſſes*; for the Fleſh would grow over them, and the Wound cicatrize; but it would break

out again, and the Relapſe would be worſe than the firſt Grievance.

Tents of Lint are made like Doſſils, except that they are cut and ſhaped at the End with a ſort of a Cap, not unlike the Head of a Clove. Theſe are made to put into ſmall Orifices to keep them open, to give a Diſcharge to the Matter.

Great Tents of Cloth are made of ſmall ſquare Bits of Raggs, in this manner: Take one of theſe by its Angles, and roll it between the Thumb and Fore-Finger of the Right Hand, ſo that one of its Ends be pointed, and that the other grow bigger; then take another of theſe Raggs, and roll it on the former, and continue to do thus till the Tent be thick enough; cut the leſſer End to make it blunter, for fear it hurt the Parts; ſnip the thick End tranſverſally; then give it a Cut with your Sciſſors lengthways, for the forming a Head or Cap; and laſtly, tie it with a Thread of Lint. This Tent is to be introduced into large Orifices, as between the Ribs in the *Empyema*, or into the Perforation in the Rings of the Muſcles in a *Bubonocele*, &c.

It often happens that a Bandage may be made either with a Roller roll'd with one or two Heads. When this happens, the former is to be preferr'd, as being leſs troubleſome.

To make a neat, cloſe, and fine Bandage, the Roller muſt not be too broad; for then it will be looſe on the Sides.

Some Rollers are very narrow, others very broad, others of a middle Condition. For the right uſing of a very narrow Roller, you muſt begin by folding it at the End; then keep it between the Thumb and Fore-Finger of the Left Hand: Put the other End in the Right Hand, between the Little-Finger and the Ring-Finger; Hold it firm: Then put the Thumb of the Right Hand on its Head, and the Fore-Finger beneath, and roll it very firmly between the two Thumbs and the two Fore-Fingers.

For one of the middle ſort of Rollers, keep it between the Fingers of the Left Hand and the Mount of *Venus*, putting the Thumb of the Right Hand on its Head, and the Fore Finger beneath.

For ſuch Rollers as are very large, put them between the Fingers of both Hands, as Shopkeepers do their Ribbons. This Method may ſerve for all ſorts of Rollers, being the moſt convenient and ſimple.

As you proceed in undoing the Roller, you muſt gather it to a Heap to prevent its being troubleſome, as it would be if it lay all abroad.

In taking off or applying the Dreſſings, the Surgeon muſt ſhew a Tenderneſs, and not ſay or do any thing which may diſcover a Cruelty of Temper. If the Patient be naturally Hypocondriack or Melancholy, do it as quick as may be, and do not amuſe yourſelf with talking with him; for theſe People bear a mortal Hatred to all Doctors and Surgeons.

I ſay, you ought to be tender, but not pitiful: For however a Patient may love to be gently dealt with, he had rather be cured; and if a Surgeon diſcover much Compaſſion, they apprehend this will hinder him from doing his Duty; or, at leaſt, will conclude he has not been very converſant in the Buſineſs of his Profeſſion.

A DE-

A DESCRIPTION Of the most Commodious BANDAGES AND DRESSINGS.

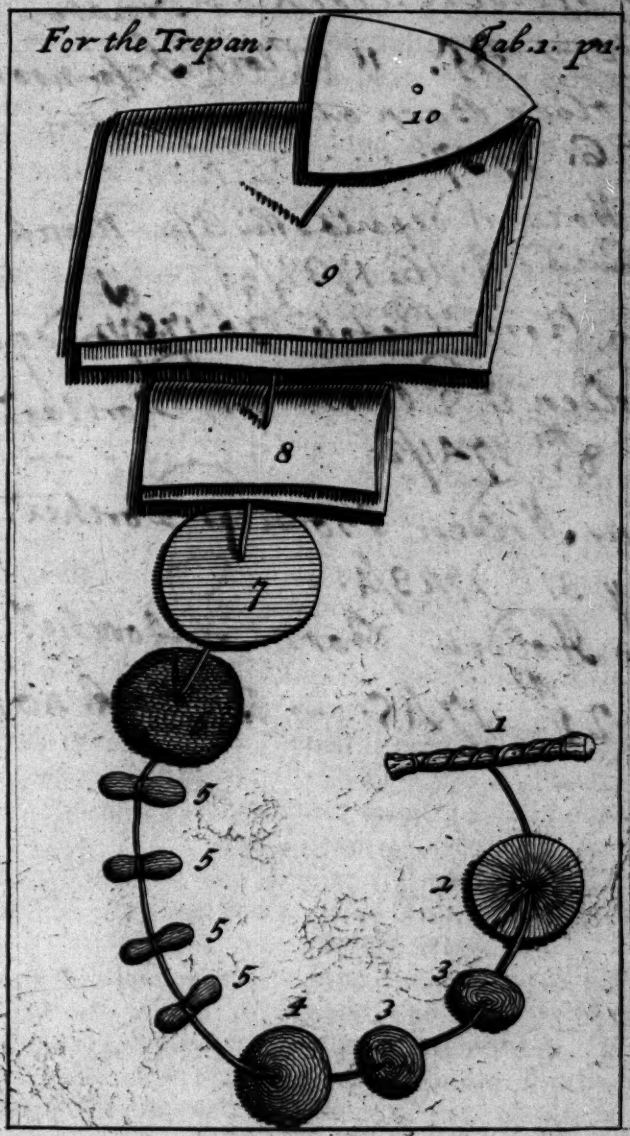
The Dreſſings after Trepanning.

TREPANNING is the Perforation of the Skull to diſcharge Matter ſuppoſed to be lodg'd on the *Dura Mater*; and this cannot be made without wounding the Teguments; therefore proper Dreſſings are required, which are here repreſented. See *Tab.* 1.

1. A falſe Tent made of Lint, in which a Lancet is conceal'd for the piercing the *Dura Mater*, when the Surgeon thinks there is *Pus* beneath.

2. A Syndon of Lint, which is to paſs thro' the Hole of the Skull, and muſt be dexterouſly preſs'd cloſe to the *Dura Mater* with the Lenticular Inſtrument.

The


For the Trepan.
Tab. 1. pu.
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A List of the Names of y Children of Wm Holden & Hannah Holden — and also of their Birth

Hannah Holden. Born at Newton Decem: 10: 1736. 11 o Clock Befor noon. —
Danl Holden Born at Bridgwater — .
Novr 26. 1737: .....
Hannah Holden departed this Life March 1st and was buried y 16: 1738/9: —
Wm Holden Born Octob: 30: 1739 Bridgwater
Hannah Holden y 2d Born at Dorchr:
January 8th 1741/2. .....
Rhinehar Holden Born at Dorchr: —
January 31: 1743/4.
Jonathan Holden Born at Dorchr:
Decemr 21st 1745. — 3 Clock. 20 M. Morn

The Syndon muſt be apply'd even, flat, and cloſe to the *Dura Mater*, leſt its Inequalities preſſing the Membrane, ſhould cauſe a dangerous Inflammation.

The Syndon muſt be a little larger than the Hole of the Skull, that ſo the Remedies may diffuſe themſelves on the *Dura Mater*, and it may not ſuffer any Contuſion when the Brain in its Dilatation beats on the Edges of the Hole.

Before you introduce the Syndon, ſteep it in a Mixture of Spirit of Wine and Honey of Roſes; for the applying Oils and greaſy Medicines is apt to occaſion Excreſcencies or *Funguſſes*. When theſe ariſe, you muſt uſe Deſiccatives, as Spirit of Wine and Tincture of Aloes; and if theſe are not ſufficient to diſpel them, have recourſe to Powder of Turpentine, *Iris Florentina*, or Burnt Allom. Be ſure to preſs theſe Powders a little on the *Dura Mater*, with the Lenticular Inſtrument.

After the Uſe of theſe Remedies, ſteep your Syndon in a Decoction of the vulnerary Plants boil'd in White-Wine, adding a little Honey of Roſes.

To make this Syndon, take in your Right Hand ſome good ſoft Lint; draw as much of it as may be about the Thickneſs of a Gooſe-Quill, between the Thumb and the Fore-Finger of the Left Hand; then tie this ſmall Packet of Lint in the Middle with a Thread: Next ſpread the Lint round like ſo many Rays, and cut it into a circular Form a little bigger than the Hole made by the Trepan.

Before you apply it, you muſt ſteep it in ſome convenient Liquor: The moſt ſpirituous are beſt, becauſe they are Reſolutives, and hinder Putrefaction: Thoſe that are oily ſtop the Pores, leſſen Tranſpiration, and occaſion Inflammation, as was before noted.

Before you apply the Syndon, you ought to tie it with a Thread, which may hang out over the Skull, that ſo you may draw it out at the next Dreſſing. This is done by way of Precaution, leſt it ſhould ſlip under the Bones between the *Dura Mater* and the Skull, whither it might be forced by the *Syſtole* and *Diaſtole* of the Membrane, eſpecially when the wounded Perſon is very antient; for we know that in theſe People the *Dura Mater* is tied to the Sutures, and that almoſt every where elſe there is a Space between the *Cranium* and it,

into

into which the Syndon may ſlip; and if ſuch an Accident ſhould happen, there would be an Extraneous Body, which would require a new Operation.

Some prefer a Syndon made of a ſmall Bit of a ſoft Rag cut round, to one of Lint, for fear leſt ſome of the Threads ſhould get under the Skull, and create troubleſome Accidents.

3. Small round Pledgits of Lint made about the Bigneſs of the Hole, which are to be laid one on another over the Syndon, that there may not be any empty Space in the Hole. Preſs theſe ſoftly with the Lenticular Inſtrument, without too much Streſs on the *Dura Mater*.

I ſay that the Hole ought to be well fill'd with Pledgits, becauſe it ſometimes happens that the *Dura Mater* is inflamed, and comes out, which cauſes ill Accidents, and very much embarraſſes the Surgeon; for, not to mention the Difficulty of putting it back, it corrupts, mortifies, and in ſuch caſe muſt neceſſarily be cut off.

Obſerve that you muſt wet the Pledgits, with which you fill the Hole of the Trepan, in ſome ſpirituous Liquor.

4. A dry Pledgit is to be apply'd over the Hole immediately on the Bone; for you muſt never apply Medicaments on the Bones, unleſs you deſire to procure an Exfoliation; in which caſe Oil of *Guiacum* and Tincture of *Euphorbium* are excellent, and muſt then be procured, when you deſire the Fleſh ſhould grow to cover the Orifice of the Skull.

5. Small Doſſils of Lint dipt in a good Digeſtive made with Yolks of Eggs, Turpentine, and Oil of Roſes, to be put within the Lips of the Wound, to procure Suppuration, and ſuppreſs the too quick Growth of the Fleſh, and prevent its covering the external Orifice too ſoon; for the Wound muſt never be cicatrized till the Hole is fill'd with a *Callus*, which is about forty or fifty Days after the Operation.

If in ſpight of the Digeſtive, the Fleſh grows too luxuriantly, you muſt touch it with the *Lapis Infernalis*, and lay a dry Pledgit on it, leaving it till the next Dreſſing.

Ob-

Obſerve that the large Digeſtion of the External Wound does extreamly eaſe the *Dura Mater*, by reaſon of the Communication between the External and Internal Veſſels. Obſerve likewiſe, that you muſt ſhave the Head, and embrocate it well with Oil of Roſes and Spirit of Wine.

6. A large Pledgit arm'd with a good Digeſtive made with Yolks of Eggs, Turpentine, and Oil of Roſes, which is to be apply'd over the whole Wound.

7. A large Emplaiſter to be apply'd over all the above-nam'd Dreſſings.

8. A Compreſs of Linnen Raggs in four Doubles to be laid over the whole Part, as well for preſerving it warm as the keeping on all the Dreſſings.

9. A large Napkin to make the Bandage, called the *Great Cap*, if you are not contented with the Folded Handkerchief.

To make this, take a large Napkin, more oblong than ſquare; double it length-ways in the Middle, and leave one of its Ends four or five Fingers Breadth longer than the other: Apply the Middle of the Napkin on the Patient's Head, ſo that the longeſt Side may immediately touch it. Order a Servant to lay his Hand on the Dreſſings, which he muſt do very gently, for fear of diſcompoſing them: Whilſt the Bandage is making, cauſe the upper Ends to be held under the Patient's Chin, whilſt you take the two lower Ends, to wit, one in each Hand, and draw them Horizontally on each Side, that ſo you may raiſe the depending part of the Napkin over the Forehead; then croſs the two Ends of the Napkin which you have hold of behind the Head, that ſo there may be no Wrinkles; bring them forward, and pin them at their Extremities. In this manner there will remain one End of the Napkin on each Shoulder, which you muſt handſomely raiſe over the Head, bringing them near the Eyes, and then faſten the two Ends which your Aſſiſtant held under the Patient's Chin, either by tying them in a Knot, or pin-

pinning them. This Bandage, if it be well made, makes a Figure not much unlike a Helmet. If this does very much embarraſs, you may make the Bandage with a fine Napkin folded Diagonal-wiſe, or in a triangular Form: Take this in the Middle with your two Hands, your two Thumbs being on the Fold one over-againſt the other: Apply the Middle of the Napkin on the Patient's Forehead; bring your two Ends behind the Head, ſliding the Hand all along the Napkin: bring back the two Ends over the Forehead, having engaged the two other Ends underneath behind the Head: Laſtly, pin the two Ends, which you have brought back, where they terminate.

You muſt take care to make as few Pleats as may be; for the Patient's Head is pain'd, and the leaſt Inequalities hurt it when it lies on the Pillow. This Bandage is eaſy, and any one can make it; and it may ſuffice for almoſt all Caſes of the Head, where *Galen* employs fourſcore or a hundred, which are very difficult to retain for thoſe who are not daily converſant in them.

10. Over all theſe Dreſſings put a woollen Cap big enough to receive them without compreſſing the Head. This is made of four Pieces cut Triangular-wiſe, and ſtitched together, becauſe there are none large enough to be found ready made in the Shops. *Numb.* 10. in the Tables ſhews you the Manner of cutting the four Pieces.

Obſerve, that low and moiſt Places are excellent for Diſtempers of the Head, and dangerous for thoſe of the Legs; and therefore when you have the Charge of Patients of Quality, cauſe them to be convey'd to ſome ſuch convenient Place, ſince too airy ones diſcompoſe them.

Dreſſings for the Fiſtula Lachrymalis.

The *Fiſtula Lachrymalis* is an Abſceſs form'd by a ſharp ſaline Humour in the greater Angle of the Eye, in which an Inciſion is made to diſcharge the *Pus*, to conſume the Calloſities, and perforate or remove the Lachrymal Bone, that ſo the Tears may have a free Paſſage into the Noſe as before.

The-

For the Fistula Lachrymalis
Tab: 2 · p: 74
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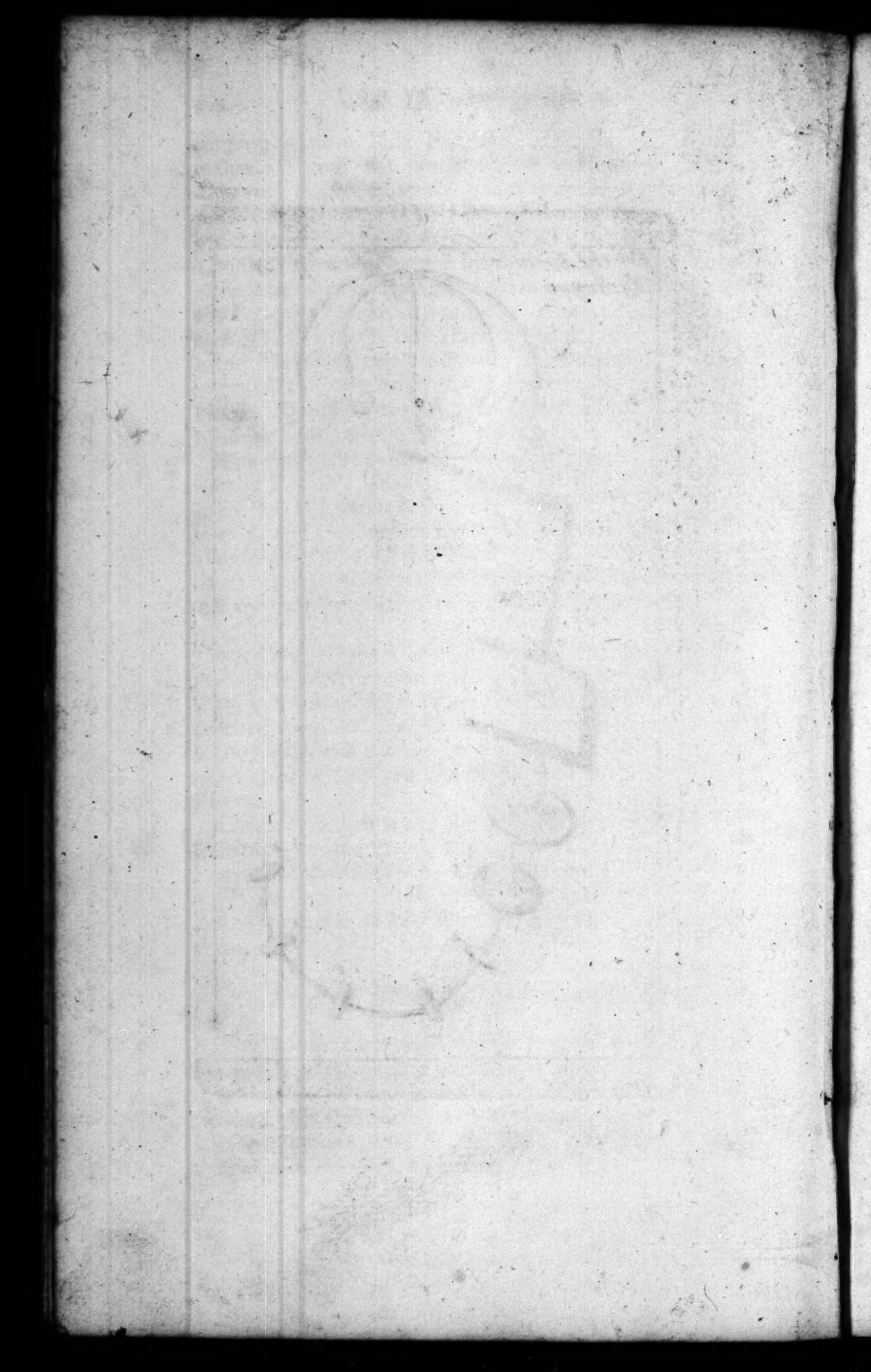


The Dreſſing is as follows. See *Tab.* 2.

1. Small Doſſils of dry Lint, with which the Wound is filled to dry up the Blood and *Pus*, for afterwards the Doſſils muſt be arm'd with ſome Digeſtives, to procure Suppuration.

2. Small Tents or Pieces of Spunge prepared, which are put into the Wound to dilate it, and haſten the Exfoliation of the Lachrymal Bone, which moſt commonly comes away whole, by reaſon it is very ſmall and ſlender, and therefore it is not neceſſary to pierce it, for if it comes away entire, the Hole is larger than any Perforation could make it.

When the Bone is laid bare by dilating the Orifice with Spunge-Tents, you may introduce Remedies to remove the *Caries*, if there be any; for which Purpoſe Tincture of *Euphorbium* is excellent.

Obſerve to wait the Removal of the *Caries*, before you attempt to raiſe new Fleſh.

For the preparing theſe Tents for the dilating of Wounds, dip a bit of Spunge in white Wax melted, then put it in the Preſs, where it muſt be left for ſome time, to leſſen its Bulk as much as may be. Cut ſmall Bits of this Spunge thus prepared, and put them into ſuch Wounds as you would dilate. Theſe ſmall Bits of Spunge imbibing the Seroſities, are extended and ſwell to their firſt Bulk, and ſo dilate the Wound.

3. A ſmall oval Pledgit of Lint armed with a Digeſtive to be apply'd on the Doſſils; this muſt be of ſuch a Figure as will ſuit the Wound; and therefore the Oval is moſt commodious.

4. An Oval Emplaiſter to cover the Dreſſings.

5. A ſmall ſquare Compreſs.

6. A Linnen Handkerchief folded obliquely from Corner to Corner, or triangular-wiſe, with which the Contentive Bandage is made to keep on the Dreſſings. For the right applying it when it is thus folded, take

it

it in the middle with both your Hands, placing your two Thumbs on the Folding; lay the Middle on the Eye, letting the Fold touch the Noſe; bring one End of the Cloth under the Ear, and the other over the Top of the Head, and pin the two Ends behind, paſſing one over the other, and taking care to compreſs the Eye.

7. A ſmall Machine made of two Semi-circles of Wire, faſten'd together in the Middle: This is made uſe of inſtead of the Cloth above-mention'd, when you do not think fit to bind the Eye. This Machine is put on the Patient's Head, over a Cap: One of the Ends of this Bandage paſſes behind the Head; the other End, where the ſmall Plate *A* is turn'd ſpirally, is apply'd over the Dreſſing, on the *Fiſtula*, to keep it on, inſtead of a Cloth; the two other Ends paſs over the Temples. The Iron, at the End of which you ſee the Plate *A*, muſt be a little bent, that it may have ſome Springineſs, and ſo the better compreſs the Part. This Inſtrument is very convenient, becauſe by this means the Patient has both his Eyes open: It coſts nothing, and the Surgeon himſelf can make it in a Quarter of an Hour, when there are no Workmen near.

Obſerve, that ſometimes after the Operation is over, and the Wound and Ulcer cured, it happens that the Tears ſtill flow down the Cheeks, by reaſon of the Obſtruction of the Lachrymal Channels. In this caſe you muſt remove the Obſtacle, by purging with Hydragogues, and lay on the Eye a Compreſs dipt in Spirit of Wine camphorated, to which a little Roſe-water may be added.

The Dreſſings for the Cataract.

The Cataract is an Extraneous Body, formed in the Aqueous Humour, which ſtanding before the Pupil, hinders the Light from entring.

The Operation, or Couching, is the piercing of the Ball of the Eye with a Needle, and depreſſing with its Point the Body which ſtands before the Pupil: After the Operation is finiſh'd, the Part is dreſs'd in the following manner.

Lay

Lay on the Eye a Compreſs of fine Linnen Rags, dipt in ſome Defenſative, to prevent Inflammation; then bind up both the Eyes with a fine Linnen Cloth folded Triangularly. Apply the Middle of the Fold on the Noſe and both Eyes, bring two Ends of it over the Head, and let them fall behind; bring the two other Ends behind the Head, and let them fall: Croſs over the Ends which are on the Head: Bring back the two lateral Ends before, and faſten them with Pins at their Extremities.

Both Eyes muſt be bound, though only one be hurt, becauſe one Eye cannot ſtir, but the other will move with it, and this is to be avoided: This Dreſſing is ſo ſimple, that it does not deſerve to be repreſented in a Figure.

The Dreſſings for all the leſſer Operations on the Eyes.

The way to let out the *Pus* under the *Comea* is, by a ſmall Inciſion with a Lancet: The way of extirpating the ſmall Tumours ariſing on the Eye, is by a ſmall ſlip Knot, which may be ſtreightned as Occaſion ſerves. The Manner of extirpating the Tumour call'd the *Unguis*, which comes in the great Angle of the Eye, is by tying its Baſe, and ſtrengthening it a little every Day: That to diſengage the Eye-lids which are glew'd together, is by paſſing a crooked Needle, with a Thread, under the Eye-lids to raiſe them, being careful not to hurt the Eye, whilſt you ſeparate the Adherences with a Lancet: That of removing the Hairs which grow into the Eye, is by pulling them out with a *Forceps*. In theſe and the like petty Operations, all the Dreſſings required, is only a Compreſs dipt in ſome Defenſative, which is to be kept in by a Cloth folded Triangular-wiſe, as was deſcribed before for the *Fiſtula Lachrymalis*.

This Defenſative is made with Plaintain-Water, Roſe-Water, and the White of an Egg beaten together.

The Dreſſing for the Operation of the Polypus.

The *Polypus* is a fleſhy Excreſcence ariſing in the Noſe, and torn out with a *Forceps*. After the Operation is over, let the Patient ſnuff up a little Wine: If

a Flux of Blood follow, put up ſome Aſtringent Powders to ſtop it, and dry the Ulcer, and then make the following Dreſſing.

Put a Tent of Linnen Rags into the Noſe, and let this be armed with ſome good Digeſtive, to ſuppurate the reſt of the Tumour, or ſome Cauſtick Powders to eat away what remains; if it be Callous, and you judge that ſuppurating Medicines will not waſte it. If you arm your Tent with Cauſticks, it muſt only be on that Side which touches the Swelling, for if it touch the *Septum*, or Partition, it would corrode the Cartilage, and the Noſtrils would be both in one, which would be a very great Deformity. For the better defending this, firſt put up a ſmall longiſh Compreſs before the Tent; the Compreſs will be retain'd in its Poſition by that, and the latter may be kept up by a narrow Fillet, faſten'd to the Patient's Cap.

The Dreſſing for a Complicate Fracture of the Noſe.

When the Bones of the Noſe are broken, and there is likewiſe a Wound in the Fleſh; this is called a Complicate Fracture.

When the Bones are reduced, the following Dreſſing is to be uſed. See *Tab.* 3.

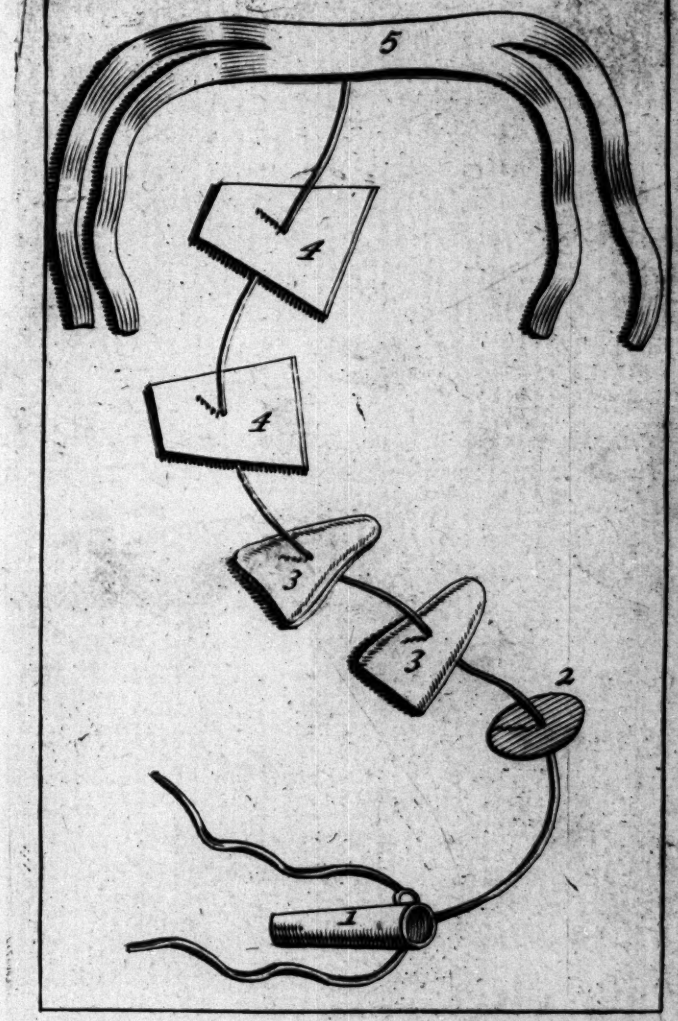
A ſmall *Cannula*, or Leaden-Pipe, to be introduced into the Noſe, to ſupport the fractur'd Bones, after they are rais'd. This *Cannula* muſt be made flat at the End, which is put up the Noſe, that ſo it may not hurt or break the ſpongy Bones: There is, at the Bottom of this, a little Ring, into which a Ribbon muſt be put; the End of which is to be faſten'd to the Patient's Cap, for fear leſt it ſhould fall out. This Pipe being hollow, the Patient may breathe thro' it.

The Surgeon may make this himſelf, thus; Let him take a piece of Lead, and beat it flat and thin with a Hammer, and then bend it, and give it the Shape which you ſee, *Fig.* 1.

Before he introduce this Pipe into the Noſe, let him dip it in Oil of *Turpentine*, beat up with Spirit of Wine.

If the Fracture of the Noſe be without any Wound, there is no need of any other Dreſſings beſides this Pipe;

For a Fracture of the Nose Tab. 3. p: 18.



For the Hare Lip *Tab. 4.* *p: 19.*

Pipe; but if the Fracture be with a Wound, it will farther require theſe which follow.

2. A ſmall longiſh Pledgit of Lint, armed with ſome convenient Unguent.

3. A ſmall Triangular Compreſs apply'd on both Sides the Noſe.

4. A ſmall Triangular Paſt-board, apply'd as before.

5. A ſmall Sling with four Tails, to keep on the Dreſſings: For the making this, take a Piece of Linnen-Cloth, of an Inch and half broad, and half an Ell in length; fold it in half, and cut it all along length-way through the Middle, leaving the breadth of two Inches uncut in the midſt.

To apply this, take the Sling by the two upper Ends, with your two Hands, between the Thumb and Fore-Finger; apply the uncut Part on the Noſe; bring the two upper Ends behind the Head, then croſſing them, bring them again before, and pin them at their Extremities: Take the two lower Tails; bring them behind the Head, making them to croſs over the upper; croſs them behind, then bring them before, and faſten them to the Patient's Cap one over another, where they end.

It is a general Rule, in the Application of theſe Slings, to begin with the upper Tails firſt, and to make the lower croſs over the upper ones.

Dreſſings for the Operation of the Hare-Lip.

The Operation is the ſtitching of a cleft Lip. The Dreſſing is as follows. See *Tab.* 4.

1. This Figure repreſents the twiſting of a Thread round a Needle, paſt through the Thickneſs of the two Lips: For the right winding this Thread, you muſt firſt turn it three or four times round beneath the Needle, then croſs the Thread over the Needle; then paſs under it, then over it, then under it, continuing to do in this Manner till the Lip be cover'd. If the

Cleft be very large, ſuppoſe from the Noſe to the bottom, you muſt paſs two Needles, ſometimes three, into the Lip, and twiſt Threads round each of them, as before.

2. Small Compreſſes put under the Ends of the Needles, to prevent them from pricking the Patient's Lip. It is likewiſe convenient to cut the Ends of the Needles off.

3. A longiſh Pledgit of Lint to be laid on the Wound, having firſt armed it with ſome good Balſam, or reſtringent Liquor, and then made an Embrocation of the neighbouring Parts with Oil of Roſes.

4. The Figure of an Emplaſter to be laid over the Pledgit, each Branch of this Emplaſter aſcends up the Sides of the Noſtrils, and the lower Part is apply'd on the Pledgit.

5. A ſmall longiſh Compreſs of Rags, conſiſting of three or four Leaves, to be put into the Mouth, between the upper Teeth and the Lip, being firſt dipt in ſome deſiccative Liquor, to prevent the Lips from growing to the Gums, if it were neceſſary to ſeparate them.

6. The Uniting Fillet, call'd ſo becauſe it keeps on all the Dreſſings. This is made with a Piece of Linnen Cloth, near an Inch broad, and an Ell in length, with a Slit in the middle, of an Inch and a half, cut length-ways.

For the applying this, take the Fillet in both Hands, put it behind the Head, then bring the two Ends forwards; bring one of the Ends thro' the Slit made in the middle of the Fillet, which is to be apply'd on the Lip, then bring back again the two Ends on the hinder Part of the Head, over the ſame Turns of the Fillet, bringing them again forwards, to re-paſs over the Lip: Laſtly, bring them back over the ſame Turns, and pin their Extremities.

This Bandage may be laid aſide, and the Sling with four Tails uſed inſtead of it; the Structure of which I have

I have deſcrib'd above in the Dreſſings for the Fracture of the Noſe: This is to be apply'd to the Hare-Lip, in the following manner: Take the upper Tails in both Hands, between the Thumb and the Fore-finger; apply the middle and undivided Part on the Lip; bring the upper Ends behind, and croſs them; then bring them again forward, and pin the Extremities to the Patient's Cap. In the next Place, bring the two lower Tails behind the Head, croſſing them, and paſſing them over the upper ones; then bring them forward, and pin them at the Ends.

Obſerve not to take off the firſt Dreſſings till three or four Days are paſt, and then unwind Part of the Thread which is round the Needle, to ſee the Condition of the Wound; nor may you draw out the Needles till the Re-union be compleated. If there are three Needles, you muſt begin to unwind the Thread of that in the middle, cauſing an Aſſiſtant to ſtand behind the Patient, and preſs his Cheeks forward, for fear the Wound be tore open by ſtirring the Dreſſings.

For the firſt Days of the Cure, the Patient muſt only uſe liquid Aliments, to avoid thoſe Motions of the Lips, which are requir'd for the chewing more ſolid ones.

Of Dreſſings where Children are Tongue-ty'd.

Children are ſaid to be Tongue-ty'd, when their Tongues are bound down to their Gums by a fine Membranous Ligament.

When this Ligament is cut, which hinders Children from ſpeaking, and ſucking too, when it is too large, there is no other Dreſſing required, but to put under the Tongue a ſmall Compreſs of Rags, dipt in ſome reſtringent Liquors to hinder the Wound from growing together, and ſtopping the Blood, if any of the Veſſels be cut, which are conſiderable enough under the Tongue. A Solution of Alom is proper enough for that Purpoſe: When the Wound does not bleed, it is ſufficient, that the Nurſe from time to time paſs her Finger under the Child's Tongue.

Of Dreſſings for the Uvula.

The Artiſts can make uſe of nothing but Gargariſms here.

Of the Dreſſings for a Fracture of the Jaw, on one Side. See *Tab.* 5.

1. A Compreſs in ſeveral Doubles, made not unlike the Figure of the Bones of the Jaw; this is apply'd on the Flat of the Jaw, ſo that the ſmall End be placed on the Side of the Chin, and the larger on the oppoſite Side, on the *Apophyſes*; this Compreſs muſt be as big as the Jaw which is hurt.

Before it be apply'd, it muſt be dipt in *Oxycrate* or Red-Wine, warmed, to ſtrengthen the Part, and prevent Fluxion.

2. A Paſt-board of a Figure and Bigneſs, accommodated to the Jaw, to be apply'd over the Compreſs, to keep the newly-reduced Bones in their Situation.

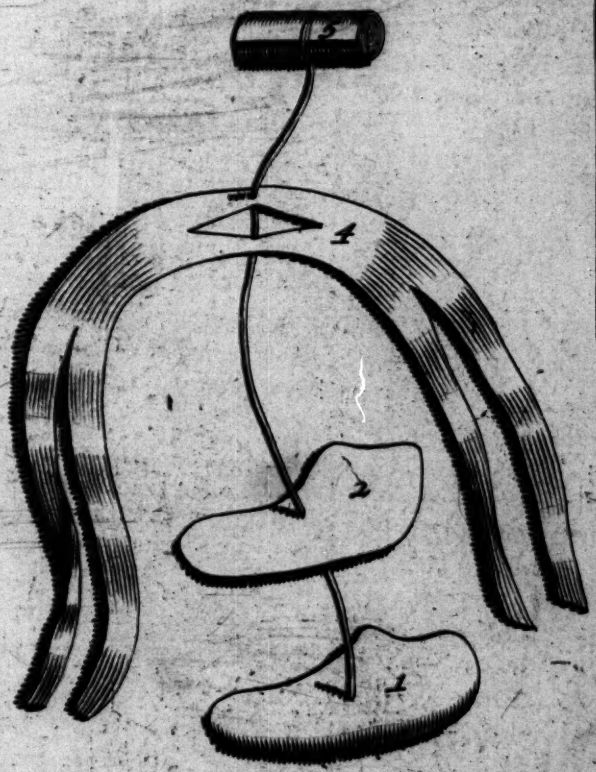
3. A Sling with four Tails, with a great long Slit in the Middle to put the Chin in, with which is made the Bandage for the Fracture of the Jaw. For the applying this, take the Sling in both Hands, between the Fore-finger and Thumb: Paſs the End of the Chin into the Hole which is in the midſt of it: bring the upper Tails over the top of the Head, a little backwards, and croſs them; then bring back the Ends over the Temples, or on each Side, and pin their Extremities: Take the two lower Tails and croſs them, aſcending over the upper; paſs them over the top of the Head, and croſs them; then bring back the Ends to the Temples, and pin them to the Patient's Cap. This Sling muſt be large enough to cover the Chin, and the whole Jaw; it ought to be about an Ell long for large Men.

This Bandage is free from Trouble, and is more convenient than the *Capiſtra*, which the Ancients uſed; however, if any one deſires to know the way of making thoſe, he may proceed thus: Take,

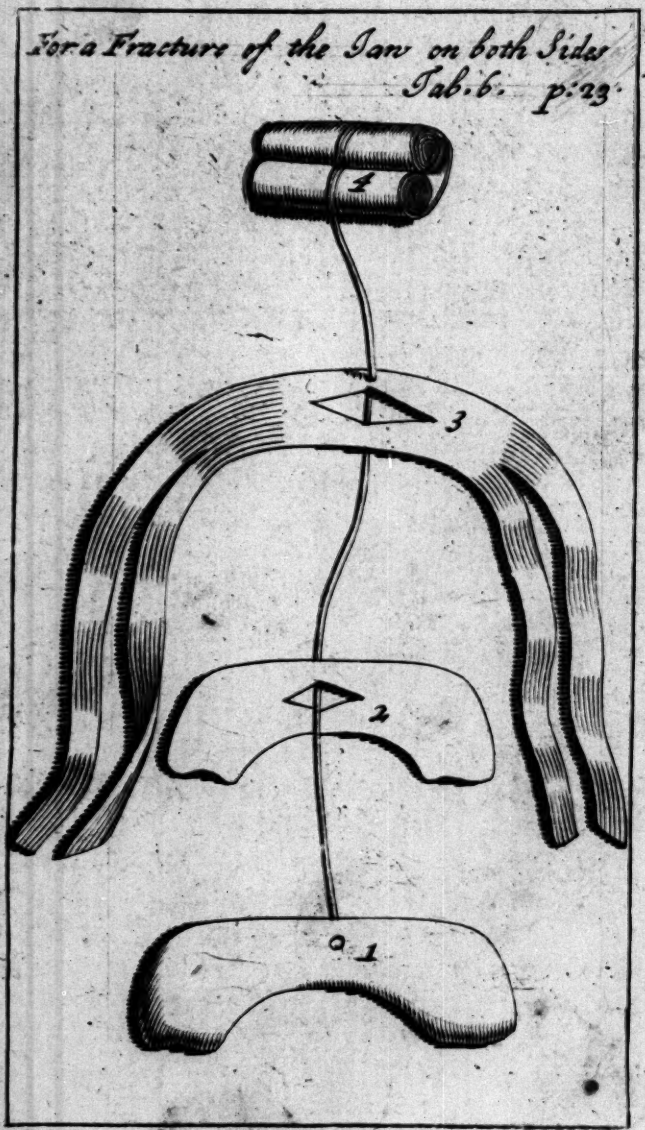
4. A

For a Fracture at y^e^ Jaw on one Side

Tab. 5. p. 27.



For a Fracture of the Jaw on both Sides
Tab. 6. p. 23.



4. A Roller of three Ells in length, and an Inch and a half broad, rolled up at one End; make two Turns with the End of your Roller round the Patient's Head, paſſing over the middle of the Forehead, and ſo round: Theſe two Turns muſt be preciſely one over the other; then bring down the Roller under the Chin, paſs over the Fracture, then aſcend, paſſing near the Corner of the Eye, come over the Head, and deſcend on the other Side, over the firſt Turn of the Roller, without leaving any Edging; then paſs under the Chin, to make an Edging on the Fracture; re-aſcend, bringing the Roller over the firſt Turns, then deſcend on the other Side, without making an Edging; but obſerve, whenever you come thither, to make an Edging on the Fracture, ſtill advancing towards the Ear: When you have made ſeveral Turns over the Fracture, bring the Roller over the Chin, to ſtrengthen all the Turns which are made over the Fracture: In the laſt Place, re-aſcend again behind the Head, and finiſh all by a Round about the Head, and pin the End of the Roller to the Cap: This Bandage may be made with a double-headed Roller, but a ſingle-headed one is ever to be preferr'd in ſuch Caſes as will admit of it, being more commodious, and leſs embarraſſing.

The Dreſſing for a Fracture of the Jaw on both Sides. See *Tab. 6.*

1. A Compreſs of Rags in ſeveral Doubles, made after the Figure of the lower Jaw: This Compreſs has a Hole in the Middle to put the Chin thro' to ſtay it, and adjuſt it handſomly to the Flat of the Jaw on each Side. Before you lay it on, you muſt dip it in Oxycrate, or Red-Wine, heated.

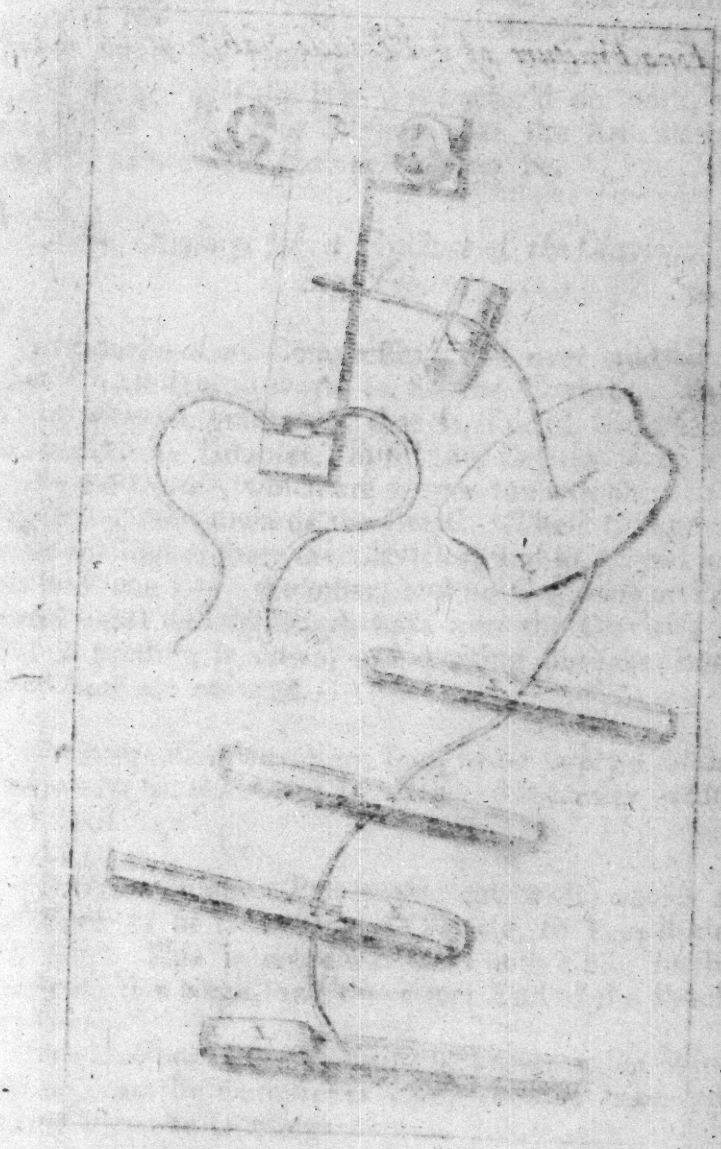
2. A Paſtboard of the ſame Figure with the Jaw, with a Hole in the middle to put the End of the Chin thro'; Lay this Paſt-board immediately on the Compreſs: It muſt be dipt in the ſame Liquors with the Compreſs, that ſo when it is dry, it may adjuſt it ſelf the better to the Dreſſings.

3. A Sling with four Tails, and a Slit in the Middle of it, to paſs the End of the Chin thro'. To make this Bandage, take the two upper Tails, with both Hands, between the Fore-finger and Thumb, put the End of the Chin thro' the Hole in the Middle, bring the two upper Tails over the top of the Head, and croſs them there; then bring them down on both Sides, and faſten them to the Cap with Pins. This Bandage muſt be pretty cloſe to bind on the Dreſſings, and keep the fractur'd Bones in their Situation.

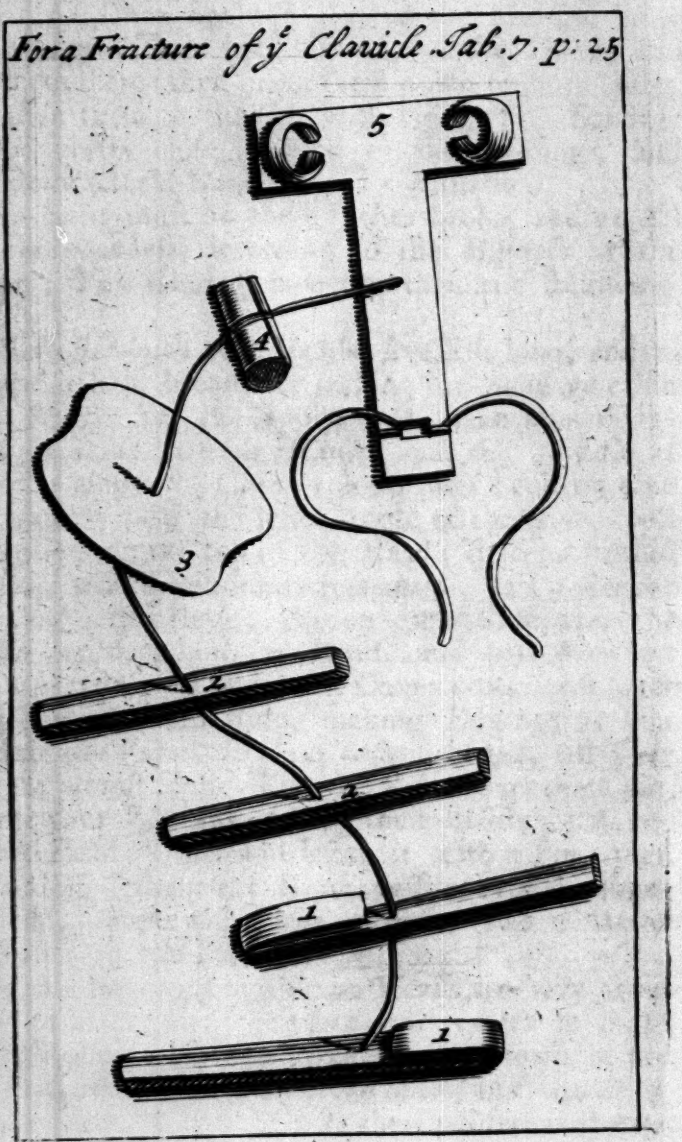
This Sling muſt be three Inches broad, and an Ell long, more or leſs, according to the Bigneſs of the Subjects: This Bandage is better than the following.

4. A Roller with two Heads, five Ells long, and an Inch and a half broad, for making the Bandage call'd the *Capiſtrum*. For the applying it, take one of the Heads or Balls in each Hand; put the Middle of the Roller under the Chin; riſe up the Cheek on each Side; paſſing near the leſſer Angle of the Eye, croſs your Rollers on the top of the Head; deſcend behind the Head, where you muſt croſs again; paſs under the Chin, and croſs there; riſe on each Side over the Fracture; re-aſcend on the Head, and paſs over the firſt Turns; deſcend under the Chin; croſs; paſs over the Fracture on each Side, making Edgings as you come near the Ears; continue as you begun, till your Roller be almoſt ſpent: Paſs the Roller over the Chin, and over your Edgings, to keep them ſteddy; paſs behind the Head; croſs, and faſten it with a Pin; then make a Round about the Head, paſſing over the Forehead; and, in the laſt Place, pin the two Ends of your Roller to the Patient's Cap.

All theſe Bandages with two Heads are very troubleſome to make, and therefore it is better to make uſe of a Roller with one Head, as was ſhewn before in the Fracture of the Jaw on one Side; but the Sling with four Tails, and a Slit in the middle, is better than either of theſe two laſt, it being more ſimple, and leſs difficult.



For a Fracture of ye Clavicle. Tab. 7. p. 25



The Dreſſings for a Luxation of the Jaw.

Theſe are the ſame as for a Fracture of this Part. If the Diſlocation be only on one Side, the Dreſſings muſt be the ſame as when the Fracture is only on one Side, and if the Diſlocation be on both Sides, you muſt proceed as if the Jaw was fractur'd on both, obſerving to make your Edgings near the Articulation, that is, as near the Ear as well can be.

The Dreſſings for a Fracture of the Clavicle.

See *Tab.* 7.

1. Longitudinal Compreſſes, laid over and under the Clavicle length-ways, to fill the Cavities. Theſe Compreſſes are graduated, that is, folded back at the End in divers Doubles, to fill the Cavities over and under the *Scapulæ*, which are deeper towards the Shoulder-bone, than towards the Breaſt. Theſe Compreſſes muſt riſe higher than the Clavicles, and ſo ſeveral may be laid one over the other, and no Compreſs or Paſt-board muſt be laid length-ways over the Clavicle, for fear of preſſing it down, and putting out the Bones after they are reduced.

2. Compreſſes ſomething long to be apply'd in the Form of a St. *Andrew*'s Croſs, over the former graduated ones.

3. A great oblong Paſt-board, cut with waving at the Ends to be laid over the Clavicle, to keep in the Dreſſings: This is made waved at both Ends, for the receiving the Neck, and the upper End of the Shoulder-bone.

This Paſt-board muſt be dipt in Oxycrate, or Wine warmed, as the Compreſſes were, for the better adjuſting it to the Dreſſings.

4. A Roller of five Ells in length, and an Inch and a half broad, with one Head, for making the Bandage call'd *Spica*, when the Fracture is near the *Humerus*.

For

For the making this, bring behind the End of the Roller, under the Arm-pit of the Arm oppoſite to that which is affected, and let ſome Aſſiſtant hold it there with his Hand; then paſs with the other End over the Shoulder affected; paſs under the Arm-pit, repaſs over the Shoulder, and there make an *X*. bring the Roller over the Breaſt, re-paſs under the Shoulder, and there engage the End of the Roller; return behind, paſs over the Shoulder under the Arm-pit, return above, ſo as to make an *X* nearer the Neck than the former; continue thus to make divers *X*'s on the fractur'd Clavicle; with the remaining part of your Roller, make two Rounds about the upper End of the Arm, and ſo faſten the Roller.

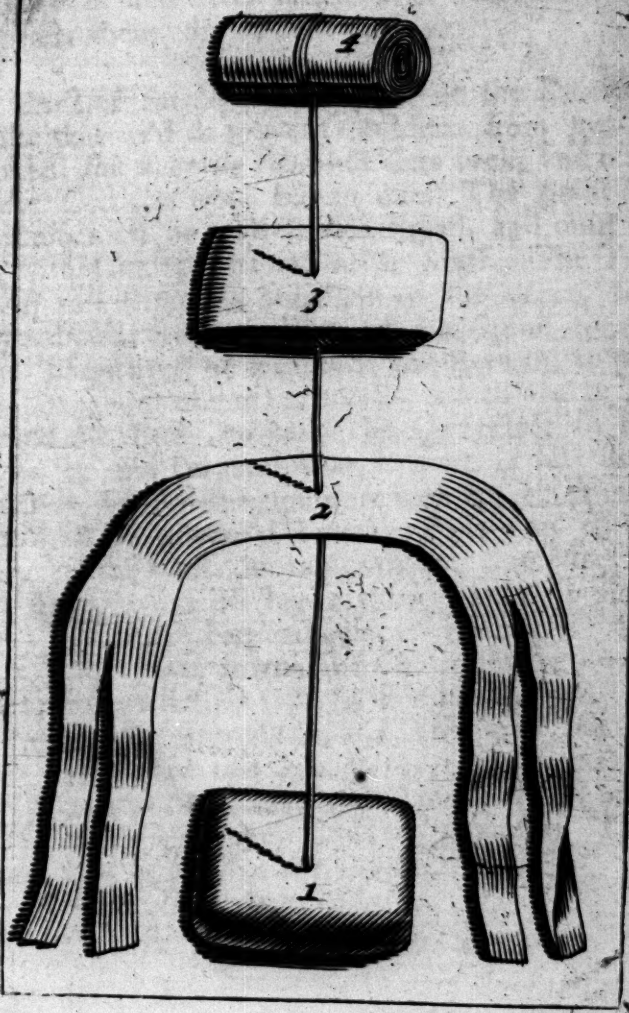
When the Fracture of the Clavicle is very near the *Sternum*, the Bandage call'd the *Capeline* is uſually made, ho' the *Spica* is really more convenient, and leſs troubleſome; becauſe it is done with a Roller with one Head, and the other requires one with two, and the Help of another Perſon.

If any one would make the *Spica*, he muſt make a great Number of *X*'s to cover the Length of the Clavicle; and to keep down every *X* very well, he muſt pin it in the Place where it croſſes: But as for thoſe who like the *Capeline* better, they may make it in this Manner. Take a Roller of ſix Ells in length, and an Inch and a half broad, rolled up at both Ends: Apply the Middle of this on the Fracture; bring one of the Heads ſtreight over the Breaſt, ſo that it may make a right Angle with the Clavicle, and order ſome Perſon to hold it there; then deſcend with the other End over the Back obliquely, and paſs under the Arm-pit of the Arm oppoſite to the fractur'd Part, having firſt put a good Compreſs of Linnen Rags under that Arm-pit, to keep the Roller from galling it, which would happen without ſuch Precaution; then bring the Roller over the Breaſt, and paſs over that End of it which the Servant holds, to engage it under it; then bid him raiſe the End he has in his Hand, and bring it over the Fracture, ſo as to make an Edging on that you bring over the Shoulder: next let him go down the Patient's Back; then bring the End which you hold in your Hand over that which

the

For a Dislocation of the Shoulder.

Tab. 8. p: 27.



the Servant holds on the Patient's Back, ſo as to engage his under yours; bid him to raiſe his End of the Roller over the Fracture, and make an Edging over the firſt Caſts of the Roller, whilſt you bring yours under the ſound Arm, and re-paſs it over the Breaſt, as before, and ſo engage that which he holds: Continue theſe Edgings over the Clavicle till it be wholly cover'd, and after faſten your Roller by ſeveral Rounds about the Patient's Body.

5. A Croſs of Steel to be apply'd on the Patient's Back, like that us'd to prevent Children from growing crooked, for keeping the Shoulders back, and hindering the Clavicles from falling out: The Branches of this Croſs muſt be two Inches broad, and muſt be cover'd with Dimity, or ſome other Stuff. The Traverſe muſt paſs from one Shoulder to the other, and the Perpendicular from the Top of the Spine to the Bottom: There muſt be a Hole at the Bottom, to paſs two Ribbons, *viz.* one of each Side, which are to be ty'd round the Body, to keep the Croſs cloſe to the Back; for as the Perpendicular is more or leſs ſtrait to the Spine, ſo the Shoulders are more or leſs drawn; but this muſt be govern'd by the Diſcretion of the Surgeon. If the Croſs do not draw the Shoulders far enough back, you muſt lay a thick Compreſs along the Spine, under the Perpendicular of the Croſs, which yet muſt not go quite down; and tie ſtraitly the End of the Croſs with Ribbons, and by this Means you will draw them more ſtrongly back. You muſt put the Patient's Arms thro' two Iron Rings, which are at the End of the Croſs-bar; theſe two Rings may be taken off, and faſten'd to the Croſs at Pleaſure: Their Structure may be ſeen in the Figure.

The Dreſſings for a Diſlocation of the Shoulder-bone. See *Tab.* 8.

1. A ſmall Pellet of Linnen put under the Patient's Arm-pit, to keep in the Head of the Bone after it is reduced.

2. A

2. A Sling with four Tails, to keep the Pellet under the Patient's Arm: The undivided Part of the Sling is to be apply'd on the Pellet, and the four Tails raiſed on the Shoulder, where they muſt be croſs'd and faſten'd with Pins.

3. A Compreſs of Linnen, in ſeveral Doubles, to be put under the ſound Arm-pit, to keep the Bandage from galling it.

4. A Roller of five Ells in length, and three Inches broad, with one Head, for making the Bandage call'd *Spica*: This is made as that before deſcribed, for the Fracture of the Clavicle, which would be uſeleſs to repeat. Remember, before you uſe the Roller, to ſteep it in ſome convenient Liquors, as Oxycrate, or Red-Wine heated; and to allay and appeaſe the Pain, make an Embrocation with good Oil of Roſes warm, before you apply the Dreſſings.

The Dreſſings for a Fracture of the Scapula.
See *Tab.* 9.

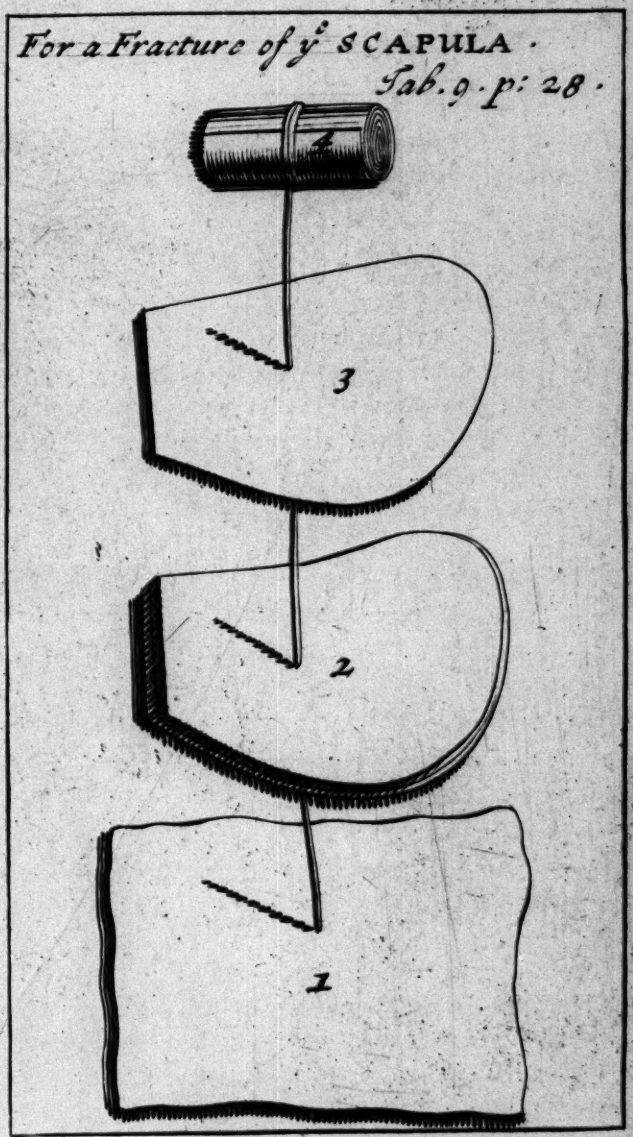
1. A ſimple Rag dipt in Oxycrate, or Red-Wine heated, or ſpread with *Unguentum Album Refrigerans*, and ſo apply'd to the *Scapula*, as the Surgeon ſhall think moſt convenient, after an Embrocation with good Oil of Roſes, to appeaſe the Pain.

2. A great Compreſs in ſeveral Doubles, moſt commonly made in the Figure of the *Scapula*; but that's a needleſs Circumſtance, for it is ſufficient for it to cover the *Scapula*, and it would be difficult too, to apply the *Apophyſes* preciſely on the *Apophyſes* of the Bone; and therefore I believe that a great ſquare Compreſs to cover the whole Shoulder, would be better, as it is more eaſily made.

3. A large Paſt-board to be apply'd over the preceding Compreſs, which ordinarily is made of the Figure of the *Scapula*; but this is needleſs, provided it cover the whole Compreſs: I would have the Paſt-board dipt

For a Fracture of ỳ SCAPULA.

Tab. 9. p: 28.



For a Fracture of the Shoulder Bone

Tab: 10. *p: 29.*

dipt in the ſame Liquor with the Compreſſes, to ſoften it, that it may be better adjuſted to the other Dreſſings.

4. A Roller with one Head, two Inches broad, and four Ells in length, for making the Bandage call'd *the Star*: To make this, bring the Roller behind, and put the End of it under the ſound Arm-pit, and let an Aſſiſtant hold it there: Bring the Head that is in your Hand under the Arm-pit of the Side affected, and then over the Shoulder, to make an *X* on the middle of the Back, by croſſing over the firſt Caſt; Paſs under the other Arm-pit, over the Shoulder, then deſcend over the Back, to form an *X* on the middle of the Back, which may make an Edging with the firſt Caſts; continue all theſe Turns of the Roller as you began, by making Croſſes or *X*'s with Edgings on the Back, till the *Scapulæ* be both cover'd, for the Bandage cannot be made for one of them alone: You may obſerve that all the Turns of the Roller are over the Back and Shoulders, and none over the Breaſt.

The Dreſſings for a Fracture of the Shoulder-bone.
See *Tab.* 10.

1. A large Piece of Linnen-Cloth cut length-ways thro' the Middle, at each End, as the Slings: This Cloth is apply'd immediately round the Arm, and over the Fracture, being firſt dipt in Oxycrate or warm Wine, or ſpread with *Ceratum Refrigerens*, which may likewiſe be dipt in Wine or Oxycrate. This Cloth is cut at both Ends, for the better adjuſting it to the Part.

2. A Roller of two Inches broad, and an Ell and a half long for great Perſons, rolled at one End: This Roller is apply'd immediately over the firſt Cloth: Make three Rounds pretty ſtrait about the Fracture, then aſcend to the upper Part of the Arm, making divers ſmall Edgings: When you are arrived as high as you intend, finiſh with ſome Rounds, and pin the Extremity of the Roller, which you muſt double, for fear, leſt the Pins break thro' the Threads. I think

it

it is needleſs to bring it round the Body to ſtop it, as ſome Practitioners direct; theſe Turns of the Roller are very troubleſome, and I do not believe they are more ſecure than thoſe around the upper End of the Arm, where it is ſlenderer than in the midſt.

3. A Roller with one Head, two Inches broad, and an Ell and a half in length: This Roller is apply'd over the former, making two Rounds about the Arm over the Fracture; and deſcending with ſmall Edgings the whole Length of the Arm, you paſs over the Elbow without covering it, and end with ſeveral Rounds about the Cubit near the Elbow.

4. Four Compreſſes of Rags in ſeveral Doubles about ſix Fingers breadth in length, and two in breadth, which muſt be apply'd on the Middle of the Fracture, according to their Length around the Arm, without touching it, being firſt dipt in Oxycrate or Red-Wine heated.

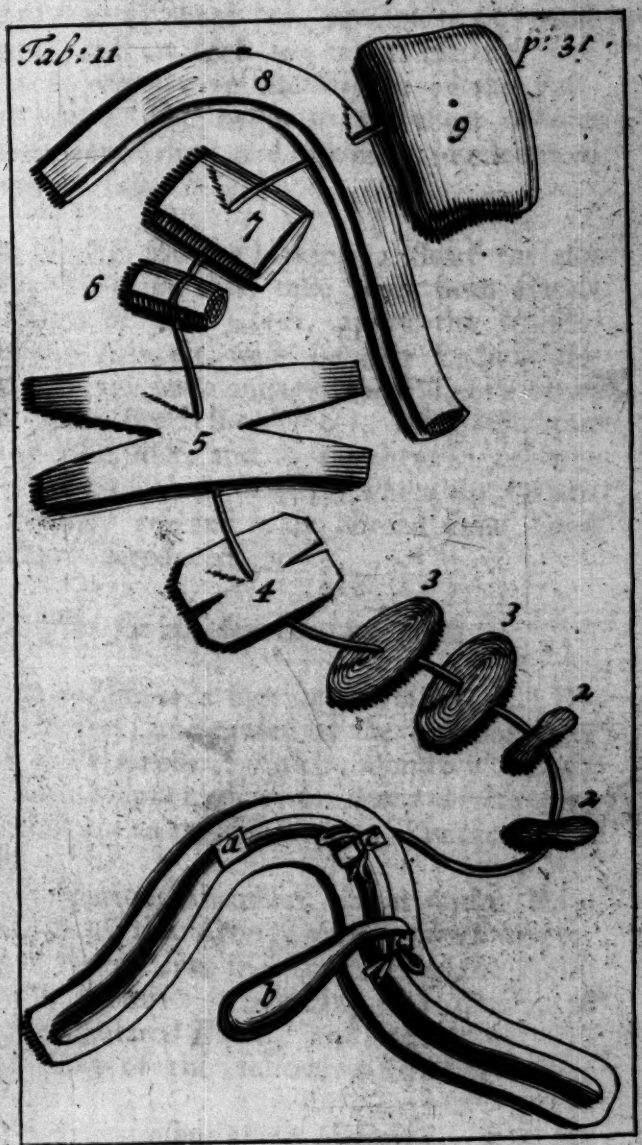
5. Four ſmall Splints of Deal, or other light Wood, very light and thin, of the Length and Breadth of the four longitudinal Compreſſes juſt mention'd; each Splint is apply'd on each Compreſs length-ways, quite round the Arm: Theſe Splints muſt be made round at the Ends, for ſo they are nearer, and do not hurt the Patient with their Angles.

6. A Roller of two Ells in Length, and an Inch or two in Breadth, rolled with one Head, to be apply'd immediately over the Splints: In uſing this, make two Rounds about the Splints immediately over the Fracture; then aſcend by Edgings, and after deſcend, and faſten it where it ends below the Elbow.

7. Two great Paſt-boards handſomly made round at the End, which are to be laid according to their Length round the Arm, ſo that they may embrace the Dreſſings without touching one another: They muſt be of the Length of the Arm. Theſe Paſt-boards muſt be dipt in warm Oxycrate, before they are laid on; for in drying they become exceeding hard, and will

For an Ancurism.

Tab: 11 p: 31.



will take the round Figure of the Arm, and apply themſelves very uniformly to the Dreſſings, which they equally compreſs in every Part.

8. Three or four Ribbons long enough to go round the Paſt-boards, and an Inch and a half broad: You muſt begin to apply that in the Middle on the Paſt-board, for if you ſhould begin to tie them at one End, the other would riſe; and this muſt needs prove a great Inconvenience.

9. A great Napkin for the making a Scarf for the fractur'd Arm: To make this, take with both Hands one of the Edges of your Cloth, apply the Middle of this under the Arm-pit, raiſe the four Ends of the Cloth, in which you have engaged the Patient's Arm; having made him bend his Elbow, bring the four Ends over the Shoulder, and ſo tie them in a Knot: This Scarf is made of black Taffety, when the Patient is rich, for he may riſe and walk abroad ſome Days after the Fracture is reduced.

The Dreſſing for an Aneuriſm in the Arm.

The true Aneuriſm is a Swelling form'd by the Dilatation of the Artery, and cauſed by the Acrimony and Corroſion of the Humours, which inſenſibly fret its Tunicks, in ſuch Manner, that the Blood dilates it by its continual ſtriking on it, and forms a Tumour call'd an Aneuriſm.

The falſe or ſpurious Aneuriſm, is an entire Rapture of the Coats of the Artery, which gives way for the Effuſion of Blood, into the Poroſities of the Fleſh.

The Operation conſiſts in opening the Artery, to diſcharge the coagulated Blood, and cutting the Patient, by the Help of the following Dreſſings. See *Tab.* 11.

1. The Figure repreſenting an Aneuriſm. *A* is the Artery of the Arm; *B* ſhews the Swelling or Bag, which the Blood has gradually formed by its Impulſion; *C* repreſents the Ligature made about the Artery, both above and below the Aneuriſm. This Ligature is made with a good waxed Thread, paſſed thro' the Eye

Eye of a crooked Needle, which is ſo blunt as not to prick at the End. This Needle is to paſs under the Artery, and you muſt begin, by making the Ligature above the Swelling, which is to be evacuated: Make a ſimple Knot with the Thread, and place, if you think fit, a ſmall Compreſs on the firſt Knot, on which make two Knots, as you ſee in the Figure: Do as much below the Swelling, becauſe there always comes a little Blood, if it be not ty'd.

I think there ought not to be any Compreſs laid on the firſt Knot, becauſe, when it becomes dry, it ſhrinks, the Ligature ſlackens, and the Blood may flow out.

2. Several Doſſils ſprinkled with Reſtringent Powders, with which the Wound is fill'd after the concreted Blood is removed.

3. Oval Pledgits with the ſame Reſtringent Powders.

4. An Emplaſter covering all, which you muſt ſnip with the Sciſſors at each End, for the applying it better to the Bending of the Arm.

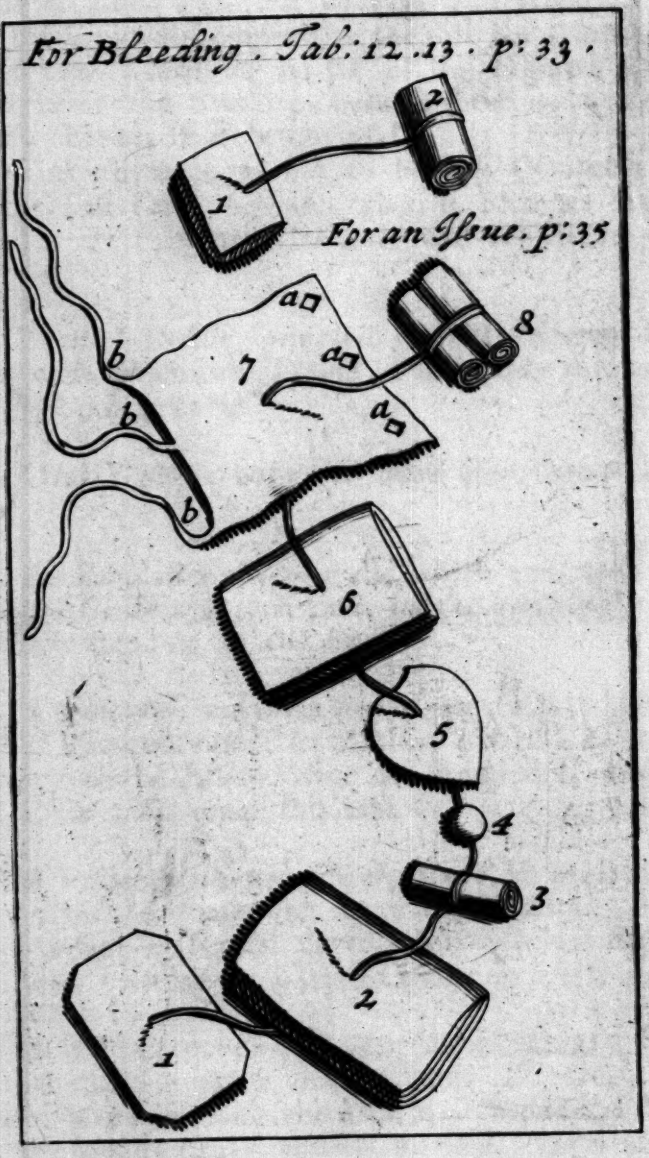
5. A Compreſs cut with pretty deep Waves at both Ends: The undivided Part of this, is to be put on the Bending of the Elbow, over the Emplaſter, and the four Ends rais'd round the Arm.

6. A Roller with one Head, ſix Ells in Length, and an Inch or ſomething more in Breadth: Begin this Bandage by ſeveral circular Turns below the Elbow, and then lay on a ſmall Compreſs.

7. A ſmall Compreſs laid over the Dreſſings: This muſt be made as thoſe in a common Bleeding, but thicker, and laid along the Arm, quite up to the Armpit; the longitudinal Compreſs marked.

8. Which muſt be thick, and as broad as three Points of the Fingers: Take your Roller up, with which you have made ſeveral Rounds below the Elbow, and make

For Bleeding. Tab: 12. 13. p: 33.



make ſeveral Turns over the Swelling, on the Bending of the Elbow, as in an ordinary Bleeding; then aſcend with ſeveral little Edgings, the whole Length of the Arm, over the longitudinal Compreſs, which you have laid all along the Artery, to hinder the *Impetus* of the Blood from forcing the Ligatures, and faſten your Roller by ſeveral Rounds about the upper End of the Arm, or, if you will, around the Breaſt.

This Compreſs ſtops the Rapidities of the Blood, and prevents the Roller from being too ſtrait.

The Artery not being in ſo great a Motion, its Reunion is the more eaſily accompliſhed.

9. A ſoft Pillow on which the Patient's Arm a little bent is repos'd, ſo that the Hand may be a little higher than the Elbow, whilſt he lies in his Bed.

You muſt bid him bend and extend his Arm a little from time to time, for fear the glairy Matter, which gathers about the Joint, ſhould thicken, and become lame.

You muſt take off the Dreſſings as late as may be.

The Dreſſings for Bleeding. See *Tab.* 12.

1. A little ſquare Compreſs in ſeveral Doubles: This is made with a ſquare Piece of a Linnen Rag, pretty ſoft, and about as large as the Palm of a Man's Hand: Fold this bit of Cloth in the Middle, and preſs ſtrongly the whole Length of this Fold, with your Thumb to mark it; then unfold the Cloth, and fold it at each End, reaching to the Fold you firſt of all made: Lay theſe two Ends directly over one another, by doubling the Cloth in the great Fold made before in the Middle; then fold again this Cloth through the Middle, and ſo you will have a good ſquare Compreſs handſomly made; and if there be any looſe Threads ſticking out, cut them off with your Sciſſors.

For applying this Compreſs, you muſt take the Orifice between the Fore-Finger and Middle-Finger of the Right Hand, if it be the Left Arm; or the Left, if it be the Right Arm you have bled, and cloſe it well between the Ends of your Fingers, and take the

Compreſs with the other Hand to wipe the Orifice, becauſe if there remain'd any Blood between the Lips of the Wound, it would dry there, and hinder the reuniting of the Wound. Apply the Middle of your Compreſs on the Wound, on that Side which you have not blooded, in wiping it, and keep it on with the Ends of your Fore-Finger and Middle-Finger; then take with the other Hand the Roller, one End of which you muſt hold between the Thumb, the Fore-Finger, and the Middle-Finger, and hold the Extremity of the ſame End in the Hollow of your Hand, with the End of the Little-Finger and the Ring-Finger: Apply your Roller over the Compreſs, and make of the other longer End, with the Hand, ſeveral *X*'s always on the Wound, paſſing every time over and under the Elbow, without covering it: When your Roller is ſpent, tie the two Ends in a Knot behind the Arm, and make a Bow on the Knot.

If you have bled a Child, or a Perſon in a *Delirium*, or have obſerved the Blood in a violent Motion, or have made the Bleeding over Night, and apprehend the Patient ſhould open his Arm, which might make his Bandage to fall off, and occaſion his loſing Blood in his Sleep; in this Caſe, you muſt make the Knot above the Elbow, and behind the Arm, becauſe this will prevent the Patient from extending his Arm: The Fillet too muſt be made of a ſtrong Cloth, not much worn, leſt it break in the Effort. If there be none of the Reaſons before-mention'd to the contrary, you may make your Knot behind the Arm, and below the Elbow, with a Fillet of an Inch and a half broad, and five Quarters long, more or leſs, according to the Bigneſs of the Patient's Arm: Obſerve, that in making the Turns of your Fillet round the Arm, it muſt be very much bent, for if it be a little open, the Bandage will ſlip, and not keep tight.

Obſerve further, if you pleaſe, that if you have made too ſmall an Orifice, in the Place of the Bleeding, which almoſt always is, by Reaſon the Impulſion of the Blood is more vehement thro' ſmaller Orifices than greater ones, that then you muſt dip your Compreſs in cold Water, or Oxycrate, before you apply it, having firſt compreſs'd, or divers times cloſed the

Wound

Wound between your Fingers, to expreſs the Blood ſhed under the Skin, which, by its Stay there, cauſes a laſting Diſcoloration. When the Orifice is large, this Accident does not happen, and then you muſt not wet the Fillet, becauſe it becomes hard, and makes the Patient uneaſy; beſides, being wet, it does not ſo well ſtop the Blood; but, on the other Hand, it checks the Inflammation, and ſo you may do as you pleaſe.

As for the Ligature in bleeding, let the Fillet be of Scarlet, or other red Cloth, of an Ell in Length, and as broad as the Ends of two Fingers; take it with both Hands, between the Thumb and Fore-Finger: Apply the Middle of it an Inch above the Elbow, or the Place where you open the Vein; turn it round the Arm, obſerving not to ſtreighten it much the firſt Turn, for fear of hindering the Blood from flowing to the Part. When this happens, you muſt ſlacken it. After the firſt Turn is made, you muſt make a ſecond, and make a Bow behind the Arm without a Knot.

Obſerve that the Bow muſt be turned upwards towards the Shoulder, becauſe if you made it downwards it would incommode you, and hinder you, in making your Frictions.

The Ancients made little Frictions from below upwards, with the Ligature on the Place of the intended Orifice before they ty'd it round the Arm, becauſe being ignorant of the Circulation, they ſaid this would put the Blood in Motion. Tho' this Reaſon will not hold now-a-days, you may nevertheleſs do this, becauſe it warms the Part, and brings Spirits to it, and ſo the Blood flows more freely out.

The Dreſſing for a Bleeding is ſo frequent, that I ought to ſuppoſe all young Surgeons know how to make it; but for this Reaſon I have ſpoke ſo much of it, ſince it would be a great Diſgrace for any one, not to be able to make methodically one that is ſo common.

The Dreſſing for an Iſſue. See *Tab.* 13.

An Iſſue is an Ulcer in the Skin, made by Cauſticks apply'd on it.

1. An Emplaſter laid over the Cauſtick, to keep it on the Part.

2. A Compreſs in ſeveral Doubles to be laid over the Emplaſter, which muſt be larger than the Emplaſter.

3. A Roller of two Inches broad, and an Ell in Length, for keeping the Cauſtick cloſe to the Part.

4. A Pea or ſmall Ball of Orris-Root to be put in the Hole, made by the Cauſtick, to keep the Ulcer open.

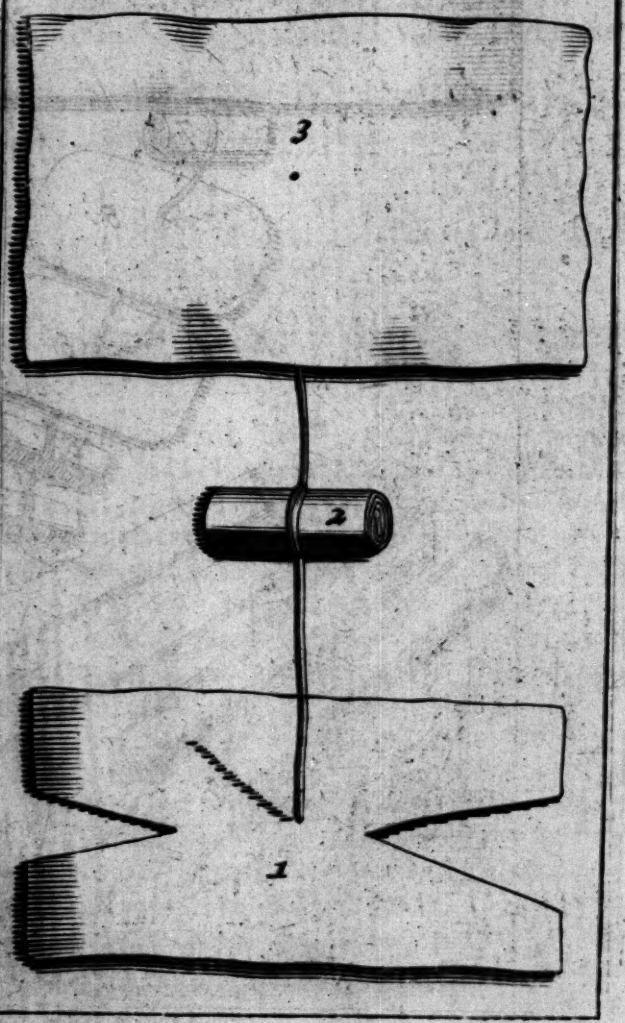
5. An Ivy-Leaf laid over the Pea, to cool the Part, in the Room of an Emplaſter.

6. A Compreſs of Rags in ſeveral Doubles, to be laid over the Leaf or Emplaſter.

7. A Bandage with which the Patient may dreſs himſelf: This is a Piece of Linnen-Cloth about three Inches broad, and long enough to go round the Arm; it muſt have three Holes, as thoſe mark'd *A A A* at one End, and three Ribbons at the other End, as *B B B*. Apply the Middle of this Bandage on the Iſſue; paſs the three Ribbons thro' the three Holes: It is beſt to begin with that in the Middle, and after to tie the other two Ribbons cloſe about the Arm or Leg. This Bandage is not proper for the Nape of the Neck, which is a uſual Place to make Iſſues in the Diſtempers of the Eyes, where there muſt be a Roller with two Heads, of an Inch and a half broad, and two Ells in Length: Apply the Middle of this on the Iſſue, and turn its two Ends, to wit, one of each Side, quite round the Head, paſſing a little above the Forehead; then paſs a ſecond time over the Wound, and re-aſcend, making divers Rounds about the Part, and round the Head. The Periwig in Men, and the Coif in Women, hides all this Bandage, but a good ſticking Emplaſter, made of Maſtick, may ſerve Turn, without all this Trouble.

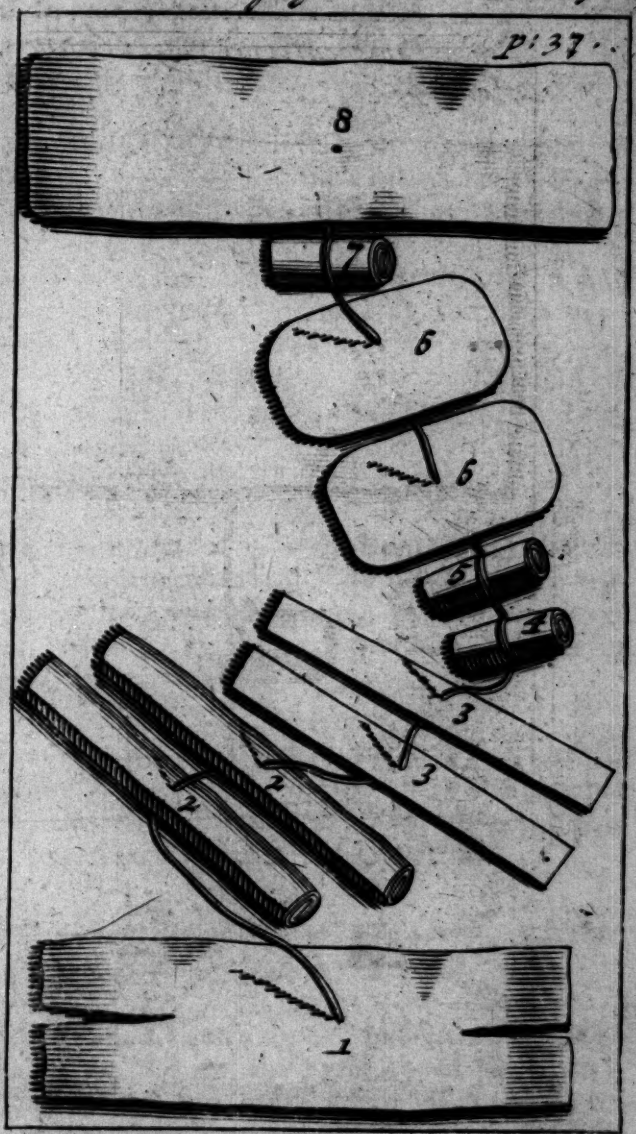
The

For a Dislocation of the Elbow.
Tab: 14. *p: 37.*



For a Fractur of ye Cubit Tab: 25.

p: 37.



The Dreſſing for a Diſlocation of the Elbow. See *Tab.* 14.

1. A Compreſs made with a ſingle Linnen-Cloth, three Inches broad, and big enough to go round the Arm: It ſhould be cut at the two Ends, after the Manner of Slings, that it may fit better on the bending of the Arm.

Apply the Middle of this Sling on the bending of the Elbow, and turn its four Tails round the Arm, having firſt ſteeped them in Oxycrate, or Wine heated.

2: A Roller with one Head, of an Inch and a half broad, and five Ells long, for making the Bandage: Make a Round about the lower Part of the *Humerus*, with the End of your Roller to ſtay it: Deſcend on the bending of the Arm obliquely as in Bleeding, and make a Round below the Elbow, on the upper Part of the Cubit: Re-aſcend in the bending of the Arm, to make an *X* on the firſt Caſt of the Roller: Continue to make theſe *X*'s, with Edgings on the Elbow, till it be quite cover'd: Riſe quite to the upper Part of the Arm with Edgings, there make ſeveral Rounds, and pin the Roller. Steep the Roller in Wine heated, before you uſe it.

3. A great fine Linnen Cloth to make a Scarf with, to ſuſpend the Arm, if the Patient will not keep his Bed. We have already ſhewn the Manner of uſing this in the Dreſſings for a Fracture of the Arm.

The Dreſſing for a Fracture of the Cubit, whether one or both Bones be broken. See *Tab.* 15.

1. A great Linnen-Cloth, dipt in hot Wine, or Oxycrate, before it be laid on the Fracture of the Arm: Give it a Cut at each end with a Pair of Sciſſors, to apply it the more handſomly.

2. Two pretty big Compreſſes very thick, of the Length of the Cubit, and ſo broad as to exceed the

Depth of the Arm: Apply one of the Compreſſes on the flat Side of the Arm the whole Length, and the other outwardly likewiſe over the whole Length. Theſe Compreſſes muſt be deeper than the Arm, that ſo the Roller may not bear on both Bones, as it commonly does, becauſe there is an Inſterſtice between the Bones, into which the fractur'd Ends would not fail to fall if compreſt by the Bandage, and cauſe a great Deformity, which, by this Means, is prevented.

3. Paſt-boards or Splints of Wood very thin, as long and as broad as the Compreſſes over which they are laid Length-ways.

4 A Roller with one Head, an Ell and a half long, and two Inches broad, apply'd immediately over the Splints: Make two Rounds over the Fracture with the End of the Roller, which muſt be very cloſe: Aſcend with ſeveral Edgings; bring it above the Elbow, and, ending there with ſeveral Rounds, pin it.

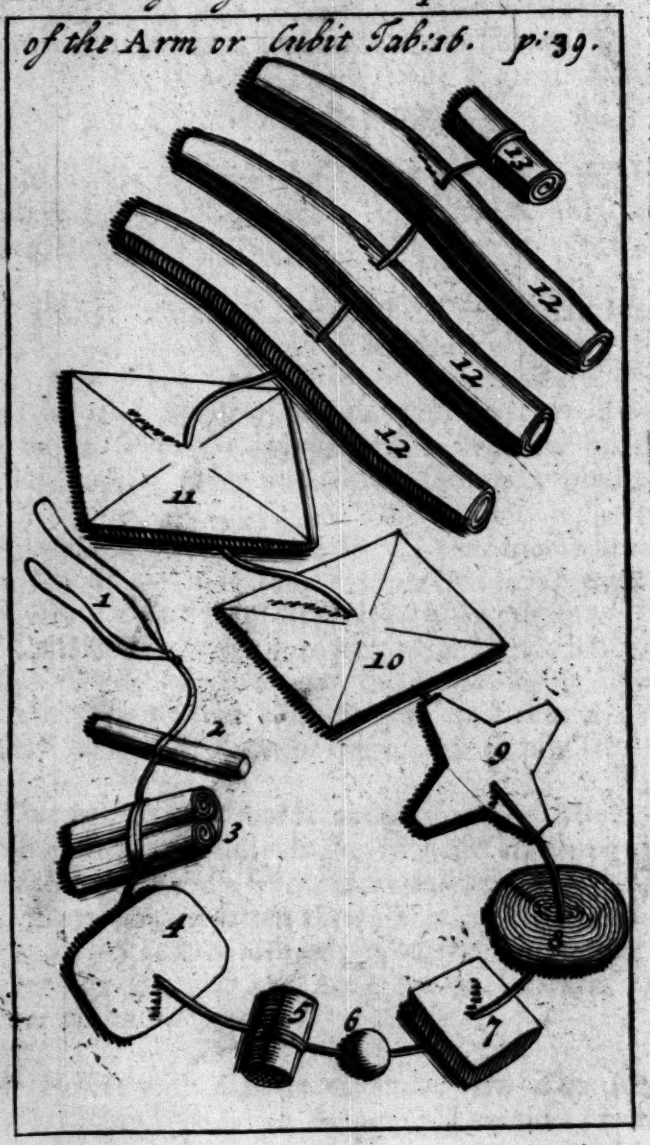
5. Another Roller with one Head, two Inches broad, and an Ell and a half long: With this make two or three Rounds about the Fracture; then deſcend the whole Length of the Arm towards the Hand, by ſmall Edgings: When you are near the Hand, bring it between the Thumb and Fore-finger, and return over the Wriſt to make Rounds there, and ſo pin it.

6. Two great Paſt-boards as long as the Arm, and large enough to encompaſs it, without touching it: Theſe Paſt-boards muſt be made round at the End, and dipt in Oxycrate, to faſten them, that ſo they may ſit more ſmoothly and handſomly over the Dreſſings; to wit, over the Flat of the Arm, the one within, and the other without.

7. A Roller with one Head, about two Ells long, and two Inches broad, to be apply'd round on the Paſt-boards; begin by ſeveral Turns round the Middle; then riſe, and after deſcend by ſeveral Edgings, pinning the Rollr where it ends. You may decline uſing the Roller, and faſten the Paſt-boards with three

or

First Dressing For an Amputation of the Arm or Cubit Tab: 16. p: 39.



or four Ribbons, beginning to tie the middle one, and obſerving to make the Bow behind the Arm.

8. A large Napkin for making the Scarf as before.

The firſt Dreſſing for the Amputation of the Arm and Cubit.

The Bones muſt be cut off, when they are broke into ſeveral Pieces, or have been carious for a long Time, or there have been incurable Fiſtulas in the Joints, or the Pieces of Bone are ſunk in the Fleſh or Tendons, where they prick the Nerves or Veſſels, ſo that they cannot be reduced to their firſt Condition: When the Operation is over, the Dreſſing is as follows. See *Tab.* 16.

1. Waxed Threads for making a Ligature on the Artery, after the Operation: They muſt be waxed to prevent their Rotting, and muſt be made of a good double Thread, about a Foot long. For the applying them, take hold of the End of the Artery with your *Forceps*: This *Forceps* ſhuts with a little Ring, which is brought down to the farther End of the Branches, ſo that by this Means, of it ſelf it holds faſt the End of the Artery, let a Servant hold the *Forceps*, then paſs into the Fleſh at the Root of the Artery a crooked Needle, threaded with a waxed Thread, drawn to the Middle: Prick it again on the other Side of the Veſſel, as at firſt; then take the two Ends of the Thread, and tie it cloſe about the Artery, taking Care, however, not to cut it.

2. A Stick of Wood with which the Ligature is ſtreighten'd, for ſtopping the Blood.

3. A Ligature of Cloth, an Inch and a half broad, and an Ell long, with which the Arm is to be bound: Make two Turns with this Ligature, which muſt after be ſtraiten'd with the Turniket, and therefore need not be quite cloſe at firſt.

4. A Paſt-board put under the Ligature, for fear of pinching the Skin, when you ſtraiten the Part with the Turniket.

5. A Ligature of Cloth, about an Inch and a half broad, and an Ell in Length, for making two Rounds about the Arm, near the Place you would cut, to keep the Fleſh faſt: You need not ſtraiten it with the Paſtboard, the Hands being ſufficient.

6. Balls of Tow, about as big as the End of the Thumb, filled with Vitriol groſly powder'd, which are apply'd to the Ends of the Veſſels, when you do not make the Ligature as before: There muſt be as many of theſe, as there are Arteries which ſhed Blood.

7. A ſmall Compreſs in ſeveral Doubles, to keep the Vitriol-Buttons on the Artery.

8. A great round Pledgit of Tow, armed with reſtringent Powders, as *Maſtick*, *Bole*, *Terra Sigillata*, with which the Part amputated is cover'd, to ſtop the Flux of Blood. For the handſome applying this, let the Artiſt keep it in the Hollow of his Right-Hand; let him begin to lay it on the Bottom of the Stump, and raiſing his Hand on a ſudden, clap it on the End, and bid a Servant to keep it on: This muſt be thick enough, and ſhould riſe ſomething on the Edges, and be hollowed in the Middle, for the better keeping on the Powders.

9. A dry'd Hog's Bladder, to be apply'd over the former: This Bladder muſt be cut four ways, like a Croſs of *Malta:* The four Ends muſt be raiſed on the Arm, to encompaſs it handſomly. This Bladder may be armed with Styptick Powders, eſpecially if no Ligature be made.

10. A great Emplaſter of *Minium*, cut in the ſame Form, and laid over the Bladder: It muſt be pretty large, to cover the Arm far enough. For the applying this methodically, take one Tail with both Hands, and put it under the Arm, which is cut off, and lay it round; then take up the upper Tail, lay it over the Arm, and diſpoſe it ſo that the undivided Part may be preciſely on the Stump: Take the two Tails

on

on the Side of the Arm, and, one after another, raiſe them, and encompaſs the Arm with them.

11. A great Compreſs of Cloth doubled, and cut in form of a Croſs of *Malta*, for covering the Emplaſter: This is apply'd in the ſame Manner as the Emplaſter: It muſt be large enough to cover all, and muſt be kept on by a Servant who holds the Part.

12. Three Longitudinal Compreſſes, an Inch and a half broad, and about a Foot long, in four Doubles: You muſt apply two in ſuch Manner, that they may croſs on the Middle, or Center of the Stump, and muſt raiſe them all along the Arm, that is, above, below, and laterally: Apply the third about the two firſt circularly, ſo that its two Ends may croſs each other, and riſe a little obliquely up, and keep all the Dreſſings on with the following Roller.

13. A Roller of four Ells long, and two Inches broad, for making the Bandage called the *Capeline*: For the methodical applying this, make three Rounds about the Edge of the Part which is cut off, then bring up the Roller with Edgings above the Elbow, and make ſeveral Rounds about the Arm; bring it down all along the Arm, to paſs over the Middle of the Part which is cut off, then aſcend the whole Length, and paſs quite over the Elbow, and being arrived there, make a Round about the Arm, to engage and keep the two Caſts of the Roller, which you have brought down and up; then bring down the Roller again, to paſs over the Wound; reaſcend above the Elbow, and make a Round, and paſs over the Stump, till it be quite cover'd; bring up the Roller with ſmall Edgings, to keep faſt all the former Turns made round the Arm, and faſten all with Rounds about the Elbow, then reſt the Arm on a Pillow.

There are ſome Practitioners who will not load the Part with ſeveral Compreſſes, nor apply Hogs Bladders on Amputations, becauſe theſe Things, ſay they, occaſion Obſtructions and Inflammations, and if theſe Ligatures ſhould fail, the Patient might loſe a great deal

deal of Blood, which might be retained in the Bladders, without being perceived.

When you take off the Dreſſings, take heed not to uſe Violence, for fear of tearing off the Ligatures.

After the Suppuration, you muſt keep the Compreſſes cloſe on the Stump, to hinder the Generation of Fungous Fleſh.

Read together with this, the Chapter of the Amputation of the Thigh, where you will find how the Turniket and Ligature are us'd.

The Dreſſing for an Amputation of the Arm.

This is like that of the Cubit; but whereas you keep faſt the Roller by ſeveral Rounds above the Elbow, in the former, you muſt faſten it around the Body, for the Amputation of the Arm: In the firſt Dreſſing, your Buſineſs is to ſtop the Blood; for after you may ſtay it by Rounds about the upper End of the Arm only.

The Dreſſings for the Stitching of the Tendon.

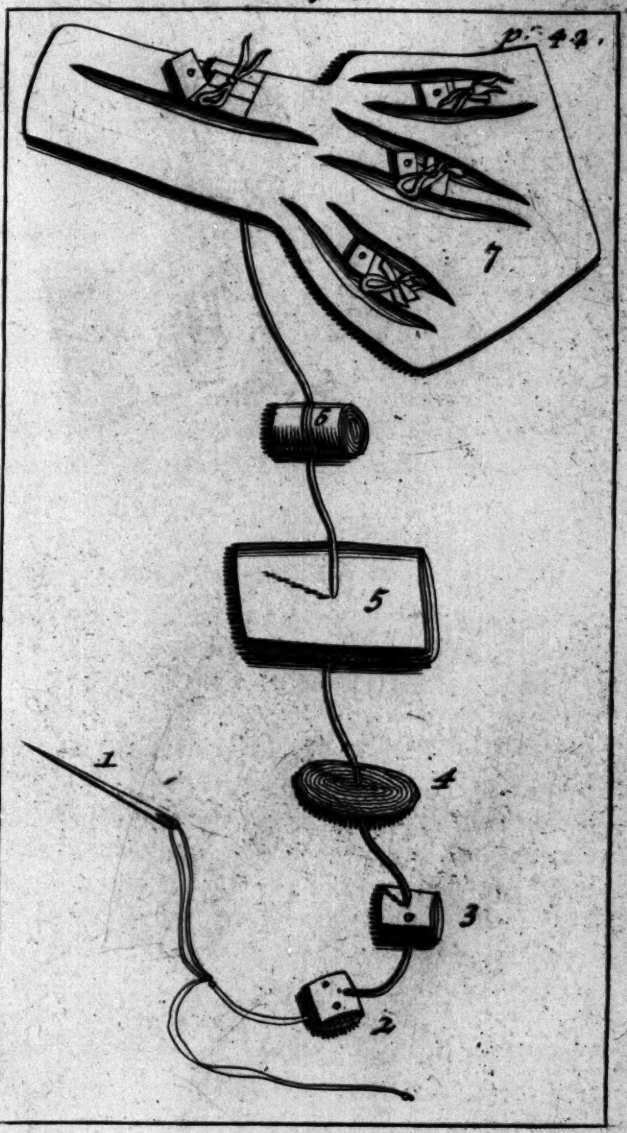
When Tendons big enough to paſs a Needle thro' are entirely cut aſunder, they are re-united by the Help of a Suture. See *Tab.* 17.

1. A ſtrait Needle threaded, with a Wax-Thread doubled, with a Knot at the End; it is with this Thread, that the Tendon is ſtitched: An Aſſiſtant muſt hold one Extremity of the Tendon with the *Forceps*, and the Surgeon hold the other with his Left-Hand, whilſt, with his Right, he pierces from without inwards, bringing the two Extremities of the Tendon one over the other.

2. A ſmall Compreſs with two Holes, thro' which the Extremities of the Thread muſt paſs, to make a ſimple Knot on it.

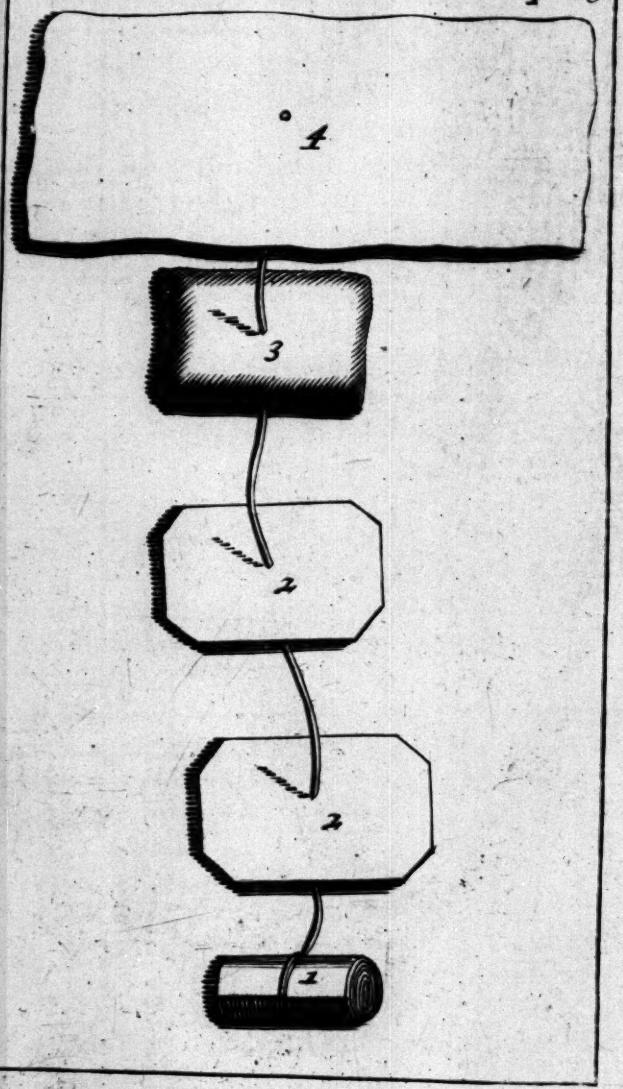
3. A ſmall Compreſs laid over the former, on which you muſt firſt make the Surgeon's Knot, and then the Slip-

For the Stitching of y^e Tendon T: 17.



For a Dislocation of the Wrist. Tab. 18

P. 43.



Slip-Knot: Before you lay on theſe Compreſſes, dip them in ſome ſpirituous Liquors, or ſome good Balſam. Obſerve to lay on the Knots, a ſmall bit of Wax, to keep them from rotting too ſoon.

When the Operation is over, humect the firſt Day, the Tendon with Oil beaten up with Spirit of Wine; and, at other Times, apply a Balſam made with Turpentine, Spirit of Wine, Tincture of Aloes, and St. *John*'s Wort: Oils and Greaſes are improper, becauſe they rot the Tendons.

At the firſt you may ſucceſsfully uſe Cataplaſms made of the four Meals, Yolks of Eggs, and Honey.

4. A Pledgit of Lint, dipt in ſome good Balſam, and laid on the Wound.

5. A ſmall Compreſs laid over the Pledgit.

6. A ſmall Roller with one Head, for making ſeveral Rounds over the Dreſſings.

7. This Figure repreſents the Tendons of the Wriſt, with Sutures made on them.

The Dreſſing for a Diſlocation of the Wriſt.

1. A Roller with one Head, ſix Ells long, and an Inch and a half broad: For the applying this, make with the End of the Roller, three Rounds about the Diſlocation; bring the Roller over the Root of the Thumb, and then between the Thumb and Fore-Finger; bring it round the Thumb, to make an *X* about the Bottom of it; deſcend over the Wriſt with ſmall Edgings, and with theſe cover the diſlocated Part; then lay your

2. Paſt-boards on: Theſe are to be laid on the Sides of the Wriſt, being firſt dipt in Oxycrate, which you made uſe of to ſoak the Roller. Theſe Paſt-boards muſt be big enough to encompaſs the Arm, without touching it; they muſt be near ſix Inches long, and ſhaped round at the Ends.

Take

Take up the remaining Part of the Roller, and carry it ſo often round your Paſt-boards, till they are cover'd with the Edgings: Put into the Patient's Hand the Pellet of Cloth mark'd 3.

3. A ſmall Pellet or Ball of Cloth, for the Inſide of the Patient's Hand, to keep his Fingers in a middle Poſture: When you have placed it there, take again your Roller, bring it over the Ball to keep it there, aſcend with Edgings the whole Length of the Cubit, and faſten the Roller with ſeveral Rounds above the Elbow, without covering it.

4. A ſoft Napkin to make a Scarf to hold the Patient's Arm. See how this is to be made in the Fracture of the Arm.

The Dreſſing for a Fracture in the Bones of the Wriſt. See *Tab.* 19.

1. A Roller with one Head, ſix Ells long, and an Inch and a half broad: Make three Rounds about the Wriſt, with the End of the Roller: Paſs between the Thumb and Fore-finger, to make an *X* on the Bottom of the Thumb: Make ſeveral Edgings on the Wriſt to cover it.

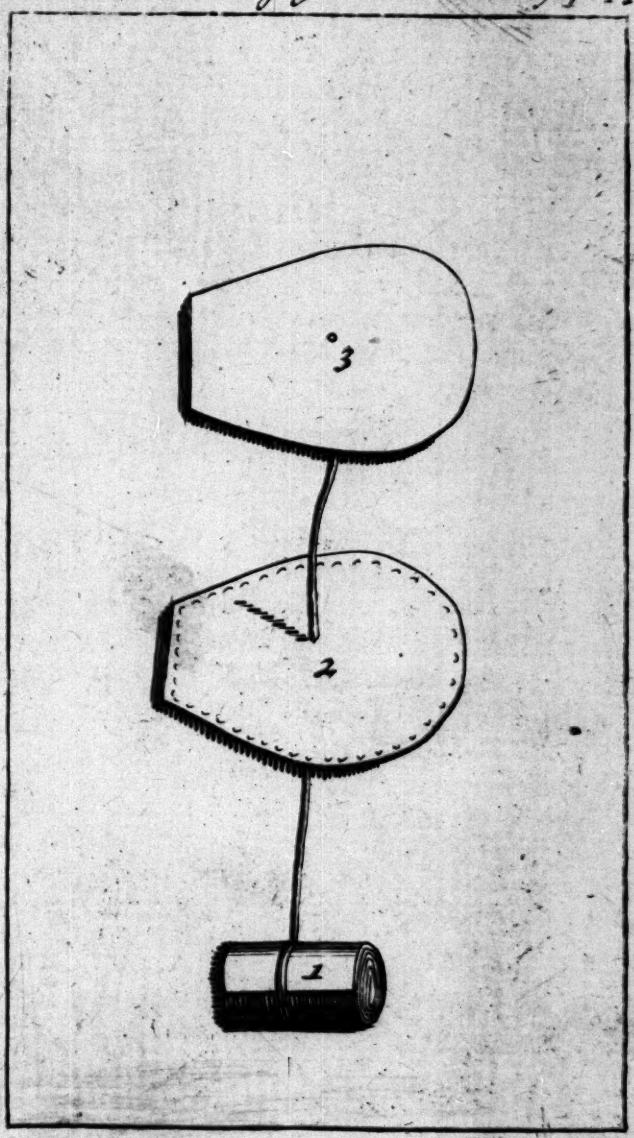
2. A Linnen Compreſs in ſeveral Doubles, having the Figure of the upper Side of the Hand: This muſt be large enough to cover the Wriſt: You muſt apply this Compreſs on the Wriſt, the narrow End being towards the Arm: It muſt be dipt in Oxycrate.

4. A Paſt-board of like Figure, with a Compreſs, to be laid over it.

Take up the remaining Part of the Roller, and cover the Compreſs and Paſt-board with Edgings: Aſcend with Edgings the Length of the Arm; faſten your Roller above the Elbow, with Rounds, and pin it: When this is done, ſuſpend the Arm in a Scarf, as is above deſcribed, in the Fracture of the *Humerus*.

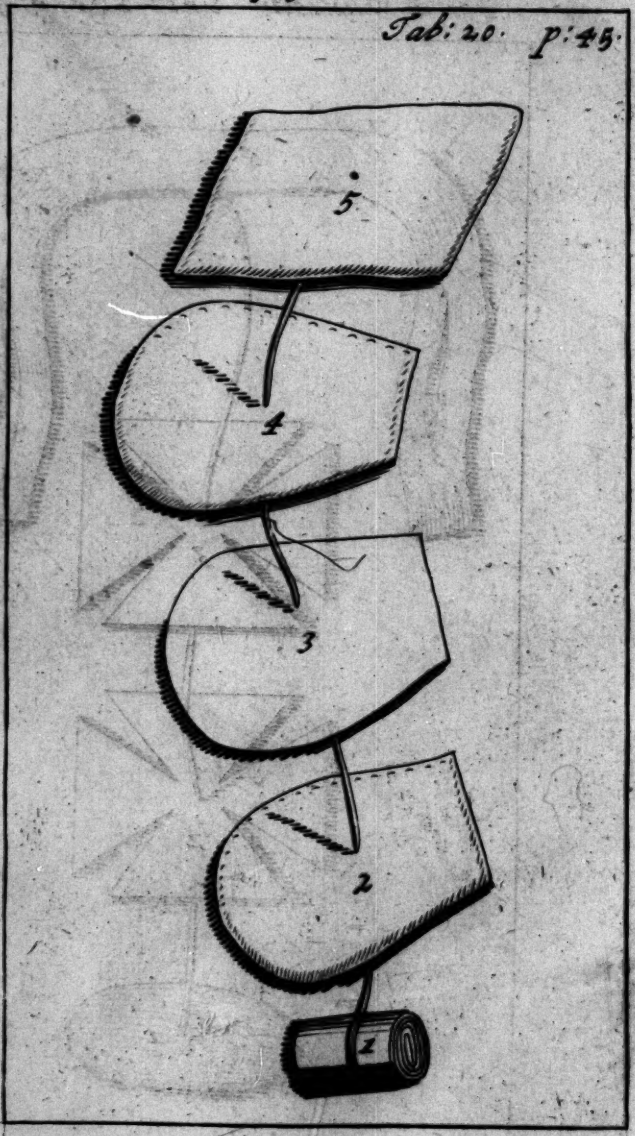
The

For a Fracture of ye Wrist Tab: 19. p: 124

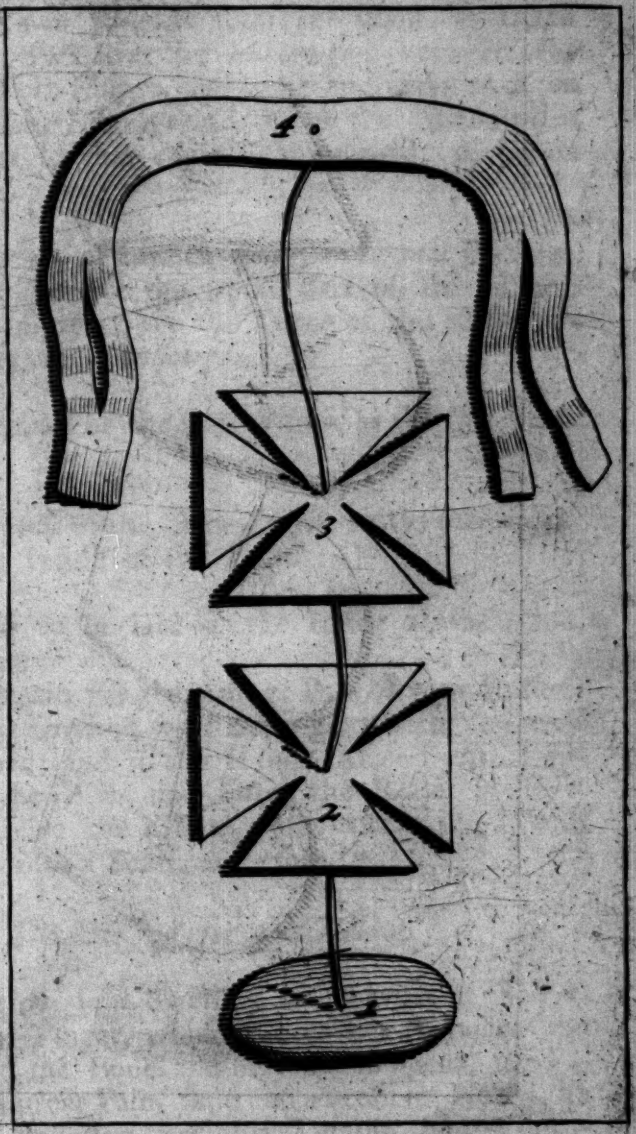


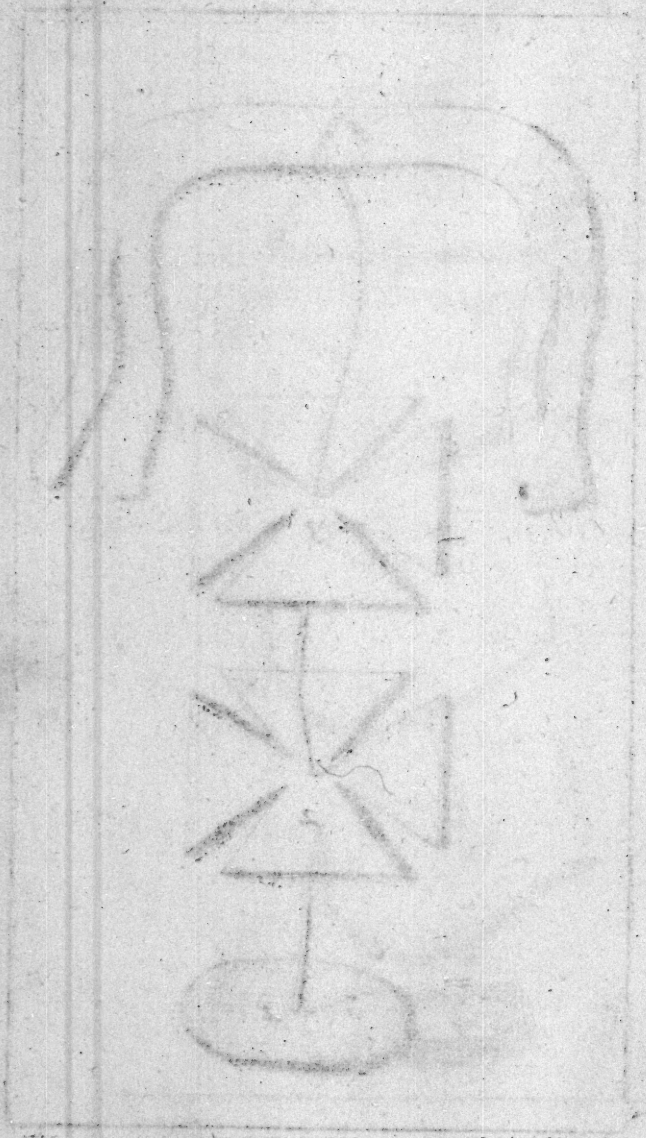
For a Fracture of y^e METACARPUS.

Tab: 20. p: 45.



For a Whitlow Tab: 21. p: 45.





The Dreſſing for a Fracture of the Metacarpus. See *Tab.* 20.

1. A Roller with one Head, and an Inch and a half broad: Make two Rounds about the Wriſt, to faſten the Bandage: Paſs over the *Metacarpus*, between the Thumb and Fore-Finger, and come and make an *X* on the Hand: Make Edgings and *X*'s on the Hand, till it be quite cover'd; then cauſe it to be held, to lay on the Compreſs.

2. A Compreſs of Linnen Rags, in ſeveral Doubles, having the Figure of the upper Part of the Hand: Apply this Compreſs over the Turns of the Roller: It ought to cover the *Metacarpus*.

3. A Paſt-board of the ſame Figure as the Compreſs, laid over it.

4. A Compreſs of the ſame Figure with the preceding, for the Inſide of the Hand.

5. Another to be laid on the Inſide of the Hand, over the former.

Take up again the remaining Part of your Roller: Cover all this Dreſſing with Edgings, which you muſt make both over and in the Hand: Aſcend with Edgings all up the Arm, and faſten the Roller by ſeveral Rounds above the Elbow, without covering it, and put the Arm into a Scarf, as before.

The Dreſſing for a Whitlow.

The Whitlow is a Swelling which ariſes at the Extremity of the Finger, whoſe Matter lies between the *Perioſtium* and the Bone. When this happens, the Patient endures great Pain, and an exceſſive Heat; he feels a great Pulſation, a mighty Tenſion, and a burning Fever: Sometimes the Matter is only in the Tendons, and here the Accidents are the ſame as before.

Sometimes the Matter is in the Fleſh, and then the Accidents are leſs painful.

The

The Operation conſiſts in opening the Swelling, to let out the *Pus*; when this is done, make the Dreſſings. See *Tab.* 21.

1. A Pledgit with Digeſtives, to be apply'd neatly round the Whitlow.

2. An Emplaſter cut in the Form of a Croſs of *Malta*; the Middle of this is to be laid to the End of the Finger, croſſing the four Tails, and laying one over the other.

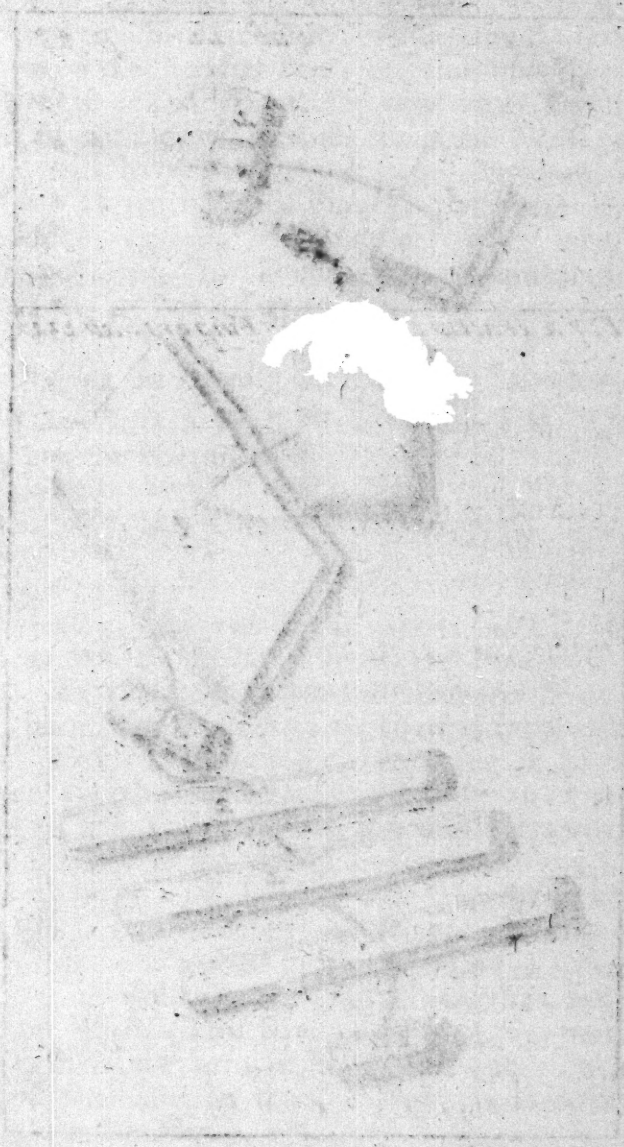
3. A Compreſs of Linnen to be laid over the former.

4. A ſmall Fillet about a Quarter of an Ell long, and about two Thirds of an Inch in Breadth, with a Hole ſlit Length-ways at one End, and cut the Space of three Fingers Breadth the other Way: Paſs the two Tails or Ends thro' the Hole, and draw them till the Fillet be cloſe to the Finger: Cover the Dreſſings by ſmall Edgings, and make a Knot with the two Tails.

The Dreſſing for a Diſlocation of the firſt Set of Bones of the Fingers, from the Metacarpus.

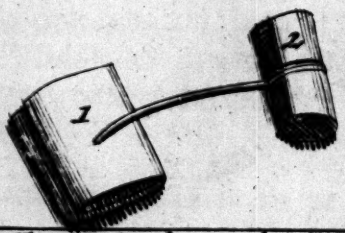
Admit the firſt Bone of the Thumb to be diſlocated: Take a narrow Roller with one Head, about an Ell long, and two Thirds of an Inch broad: Make firſt of all two Rounds about the Wriſt, to ſtay the reſt, and then aſcend over the Articulation of the Thumb; turn there to make an *X* on the Joint, deſcend with the Roller over the Wriſt, to bring it up over the firſt Caſt or Turn, and ſo make a ſecond *X* on the Joint, riſing never ſo little with a very ſmall Edging. You muſt continue theſe *X*'s, and the ſmall Edgings on the Joint, till your Roller be almoſt ſpent, and then, with the remaining Part, make Rounds about the Wriſt to faſten the whole. This ſmall Bandage is term'd *Spica*, which is made in the ſame Manner for all of the firſt Range of the Bones of the Fingers: The Scarf for the Arm was ſhewn before.

If

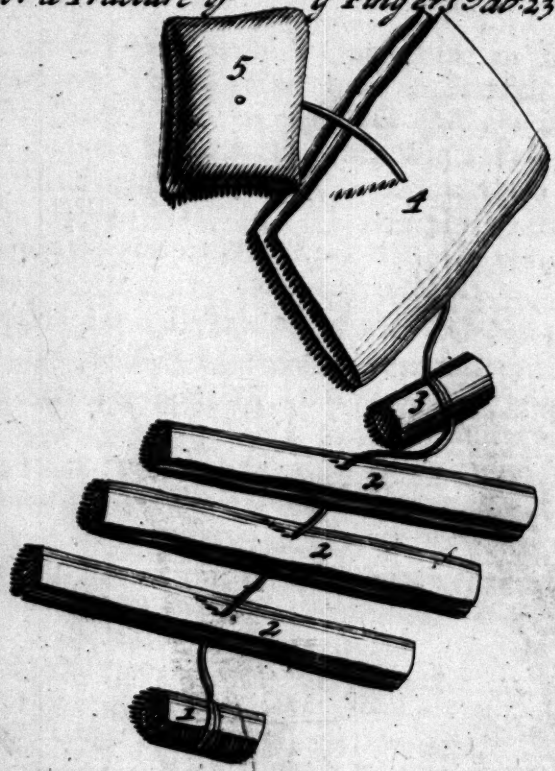


For Bleeding in the SALVATELLA

Tab: 22. p: 47



For a Fracture of *ij Fingers Tab: 23 ib.*



If the other Range of the Bones of the Fingers were diſlocated, ſuppoſe, for Inſtance, the laſt or upper Bone of the Middle-Finger; Make two Rounds about the Wriſt; bring the Roller over the Hand all along quite to the Bone which is luxated, making the Patient to keep his Hand open: Turn the Roller circularly round the luxated Part; deſcend inſenſibly the whole Length of the Finger, by very ſmall Edgings, and end all with ſeveral Rounds about the Wriſt; and thus you will have a firm and ſecure Bandage, and the Patient cannot bend his Finger; but theſe Diſlocations ſeldom happen, and I do not know whether they are poſſible: This Dreſſing only conſiſting in a Roller, it was not neceſſary to make a Figure of it.

The Dreſſing for bleeding in the Vein Salvatella.

The *Salvatella* is a ſmall Vein between the Little-Finger, and the next to it.

1. A ſmall ſquare Compreſs to be apply'd over the Orifice.

2. A Roller with one Head, about an Ell and a half long, and of the Breadth of the Points of two Fingers: To apply this, make two Rounds about the Wriſt; bring the Roller on the Back of the Hand, and paſs over the Compreſs; then bring it between the Ring and the Little-Finger, to make an *X* on the Compreſs: paſs down towards the Wriſt, that ſo you may re-aſcend over the Hand, and paſs over the Compreſs, making a ſmall Edging with the firſt Part of the Roller: paſs between the Ring and Little-Finger, to make a ſecond *X* on the Compreſs: Continue thus till your Roller be near ſpent, and then faſten it about the Wriſt. This Bandage is neat, but very uſeleſs, for Bleeding here is laid aſide, and an Emplaſter of Maſtick laid on the Compreſs, is ſufficient to keep it on the Part.

The Dreſſing for a Fracture of the Fingers.

In caſe the firſt Bone of the Great Finger were broke, the Dreſſing is as follows. See *Tab.* 25.

1. A

1. A Roller of half an Ell long, and two Thirds of an Inch broad; with this make two or three Rounds, ſtrait enough over the Fracture, and then aſcend and deſcend with ſmall Edgings, till the Finger, being wholly cover'd, cannot ſtir.

2. Three ſmall Longitudinal Compreſſes, very narrow, as long as the Finger, and to be laid Lengthways round it.

3. A ſmall Roller, about two Thirds of an Inch broad, and an Ell long; with this make two Rounds, over the Longitudinal Compreſſes, on the Place of the Fracture; next cover them all along with ſmall Edgings, and then faſten them by Rounds about the Wriſt.

4. A great Napkin for making the Scarf, of which before.

5. In all Caſes where the Hand is concerned, you muſt put a ſoft Pellet, marked 4, to keep it open, and keep this Pellet on it with a Roller.

The Dreſſing for Bronchotomy.

1. *Brochotomy* is an Aperture between the third and fourth Ring of the *Aſpera Arteria*, to give way for the Patient's breathing, when he is ſuffocated by an Inflammation of the Muſcles of the *Larynx*: After the Inciſion is made, apply the following Dreſſings. See *Tab.* 24.

1. A ſmall *Cannula*, or Pipe of Silver, very ſhort, flat, and crooked at the End, to prevent exciting a Cough, when it touches the other Side of the *Aſpera Arteria*.

This Pipe is to be introduced between two Rings of the *Aſpera Arteria*, and faſten'd about the Neck with two ſmall Ribbons or Tapes, the two Rings on the Side: The Pipe is to be left in the Wound till the Accidents are over. After it is taken out, bring together the Lips of the Wound, and make the uniting Bandage in the following Manner.

Some

Some put a little Tow into the Pipe, to modify the Air, as they ſay; but, beſides that this is uſeleſs, it ſeems dangerous, becauſe it may be drawn into the *Aſpera Arteria*; and therefore, if you put any, it muſt be ty'd with a Thread.

As ſoon as the Pipe is introduced, you muſt lay on a perforated Emplaſter, and a Compreſs likewiſe perforated on the Pipe, and keep all on with a little Fillet perforated, which muſt be left on till the Accidents are over; and when this is done, dreſs the Wound.

2. A Fillet about an Inch and a half broad, with a Slit in the Middle; bring the End of the Fillet thro' the Hole: Apply the whole on the Wound, and ſtraiten it, by drawing the Fillet at both Ends, taking Care to bring the Lips of the Wound together; then faſten the two Ends of the Fillet one over another. If the Wound require farther Care, you muſt uſe proper and convenient Remedies.

The Dreſſing for bleeding in the Jugulars.

Bleeding in the Throat is chiefly uſed in great and ſtubborn Inflammations of the Eyes, and in ſoporoſe Diſeaſes: To do this, make a Ligature around the Patient's Neck with a Handkerchief, which he may hold himſelf, if he be in a Condition; and if he be not, ſome other muſt do it for him, taking Care not to ſtreighten it to much: When the Bleeding is over, make the following Dreſſing. See *Tab.* 25.

1. A ſmall Compreſs in ſeveral Doubles, to be laid on the Orifice, having firſt wiped it with the Compreſs, which is to be apply'd to the Side that is not bloody.

2. A Fillet of two Inches broad, and an Ell long, the Middle of which you muſt lay on the Top of the Patient's Head, letting the two Ends hang on the Sides of the Neck, that ſo you may engage them with the following Roller.

3. A Roller with one Head, two Inches broad, and an Ell long; with this make ſeveral Rounds over the Compreſs, and the two Ends of the Fillet which you left hanging down; and when theſe two Ends are engaged, raiſe them over the Head, to hinder the Roller, which went round the Neck, from falling down.

Inſtead of all this Dreſſing, you may make uſe of a ſticking Emplaſter, which will be ſufficient to keep on the Compreſs.

The Dreſſing for an Amputation or Cancer *in the Breaſt.*

A *Cancer* is a round Schirrous Swelling, which is hard, unequal, and livid, and chiefly ariſes in the Breaſts of Women. Read the excellent Book which Mr. *Gendron* has lately publiſh'd, concerning this terrible Diſeaſe. There you will find a new Explanation of the Poduction of *Cancers*, with their Cure.

The Operation here conſiſts in removing the whole Swelling; and after make the following Dreſſing.

1. A good double Thread, for tying the Arteries.

2. Large Pledgits armed with Reſtringent Powders, to cover the Wound after the Swelling is removed.

3. A great *Diapalma* Emplaſter, to cover the Pledgits, and the whole Wound.

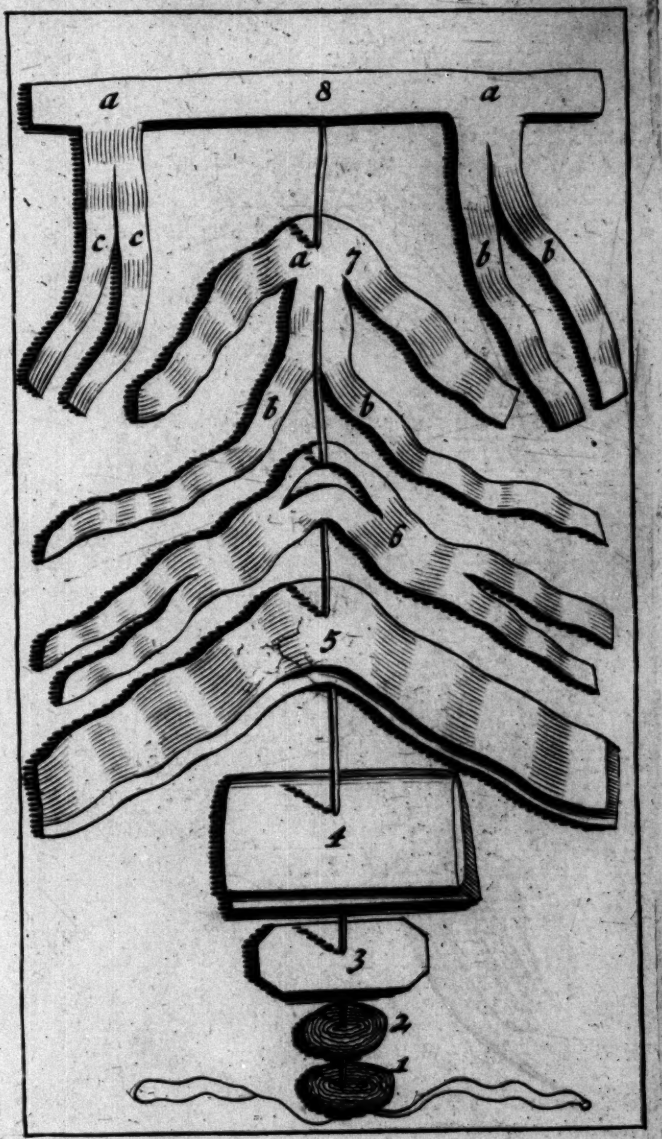
4. A large ſquare Linnen Compreſs in ſeveral Doubles, to be laid over the Emplaſter.

5. A large Napkin folded in three Parts, with which the contentive Bandage is made: To apply it neatly, you muſt roll it at both Ends, and then lay the Middle on the Tumour; you muſt turn the two Balls behind, then bring them before, and faſten them with Pins where they end.

6. A Scapulary to keep up the Napkin, which is rolled round the Breaſt; this is a Piece of Cloth about

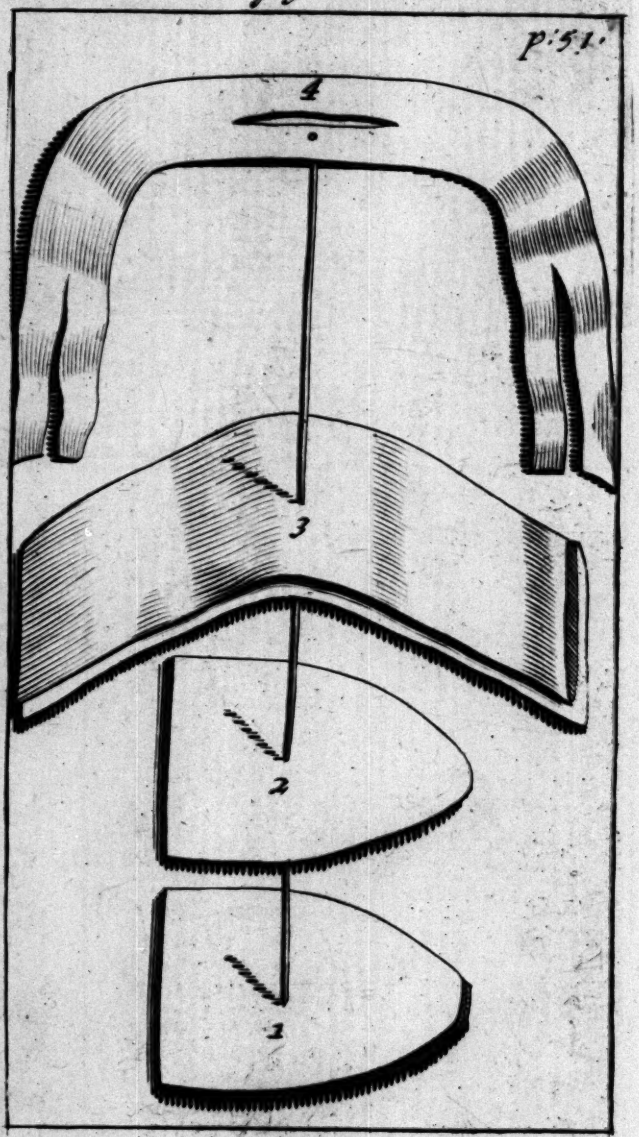
ſix

For a Cancer Tab: 26. p: 50.



For a Fracture of y^e Sternum Tab: 27.

p: 51.



ſix or ſeven Inches broad, and three quarters of an Ell long, with a Cleft in the Middle, for the putting the Head through; one of its Ends muſt go before, and the other behind, and ſo be faſten'd to the Napkin, to keep it up: Some cut the End of the Napkin, as in Slings, and, croſſing the Tails, pin them at ſome Diſtance from one another. There are ſome too, who engage the Ends of the Scapulary under the Napkin, and then turning them up, pin them: You may uſe your Pleaſure, it is no great Matter which you do, if your Bandage do not fall.

7. The ſingle Bandage of *Heliodorus* for one Breaſt, if you do not uſe the Napkin; bring the Girth *A* round the Body, and faſten it behind; croſs the two Straps *B B* on the Breaſt; paſs behind, and there faſten them to the Girth *A*.

8. The double Bandage of *Heliodorus* for both Breaſts. Bring the Girth *A* round the Body under the Armpits: Croſs the two Straps *B* on the Breaſt, to keep on the Remedies, and faſten theſe to the Girth *A* behind on the Back; do as much with the two Straps. But the Napkin is better than all this.

Obſerve never to uſe ſharp or corroſive Medicines, for theſe make the Diſeaſe incurable: No more may you uſe Suppuratives or Repellents. The only proper Remedies, are ſuch as are mild, temperate, and cooling, as Night-ſhade, Plantain or Strawberry Waters, *Sal Saturni*, Cream, and whatever elſe may ſoften and appeaſe this ſevere Tumour; all theſe are of uſe, when the *Cancer* is not ulcerated.

The Dreſſing for a Fracture of the Sternum.

See *Tab.* 27.

1. A Compreſs of the Figure of the Breaſt-bone in ſeveral Doubles, to be laid immediately on the Part, having been firſt ſteep'd in ſome proper Liquors.

2. A Paſtboard of the ſame Figure with the Compreſs to be laid over it: This too muſt be ſoften'd, by being dipt in the ſame Liquor.

3. A large Napkin, folded in three Pleats, to be apply'd round the Breaſt, as was deſcribed before.

4. The Scapulary as before.

The Dreſſing for a Fracture of the Ribs. See *Tab.* 28.

1. A Compreſs ſomething longiſh, about an Inch and a half broad, folded in ſeveral Doubles, which is apply'd length ways on the fractured Rib: If there are two or more fractured Ribs, the Compreſs muſt be large enough to cover them all together, with all the Dreſſings.

2. Two ſmall Paſtboards, the Middle of which are apply'd on the Fracture, paſſing one over the other, in the Form of a St. *Andrew's* Croſs.

3. A large Compreſs in ſeveral Doubles, to cover the whole Dreſſings.

4. A Paſt-board apply'd on the Compreſs, to keep the Dreſſings on the Part.

5. Another Compreſs in ſeveral Doubles, to be laid over the Paſt-board.

6. A great Napkin folded in three Leaves, which is rolled about the Breaſt, to keep the Dreſſings, as was ſhewn before in treating of the *Cancer*.

7. The Scapulary to keep up the Napkin as before.

The Dreſſing when the Spinal Proceſſes of the Vertebræ *are fractur'd.* See *Tab.* 29.

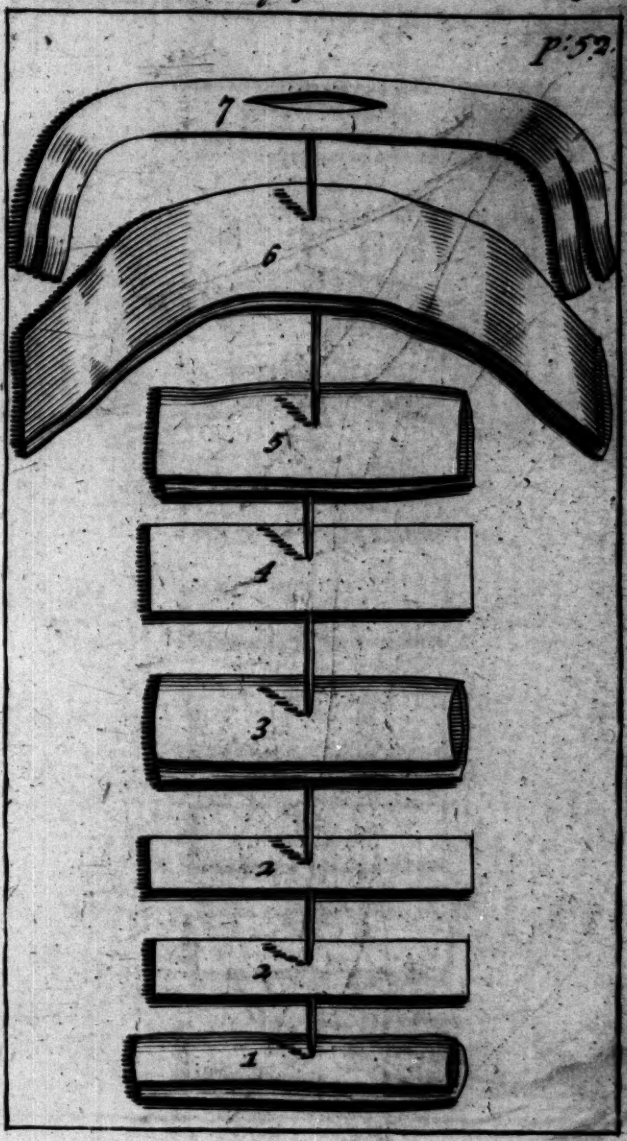
1. A ſmall longiſh Compreſs in ſeveral Doubles, about an Inch broad, which is to be laid along the *Vertebræ*, on the Side of the Spinal Proceſs which is fractured, to keep it right after it is reduced.

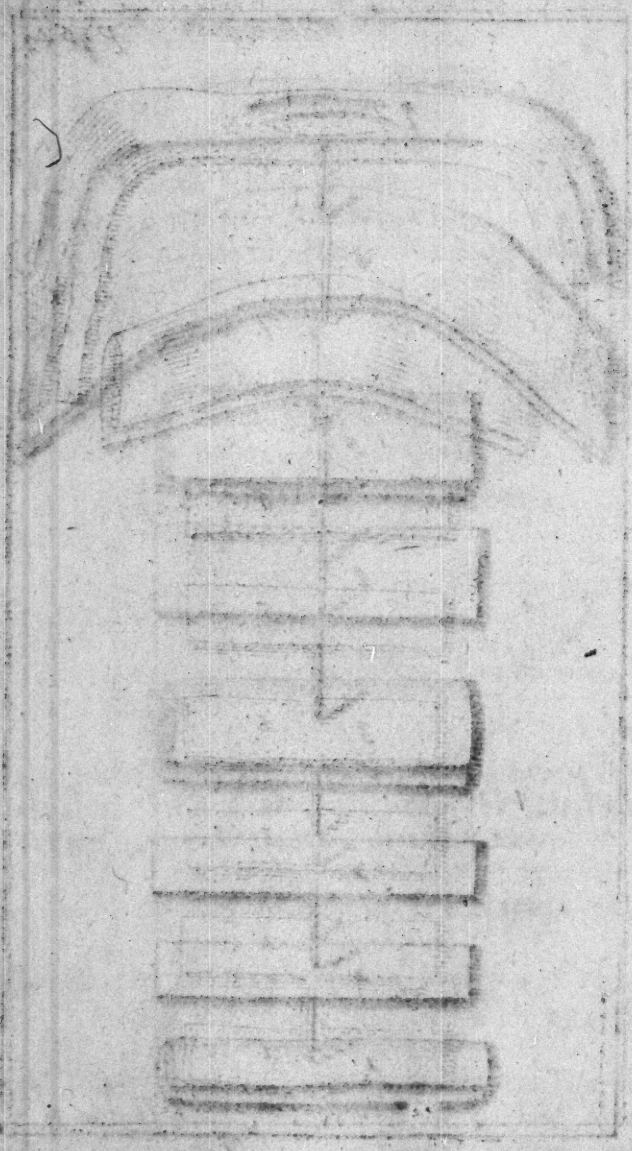
2. A Paſt-board of the ſame Figure and Length, as the Compreſs, to be apply'd length-ways over all.

3. A

For a Fracture of ỳ Ribbs Tab: 28.

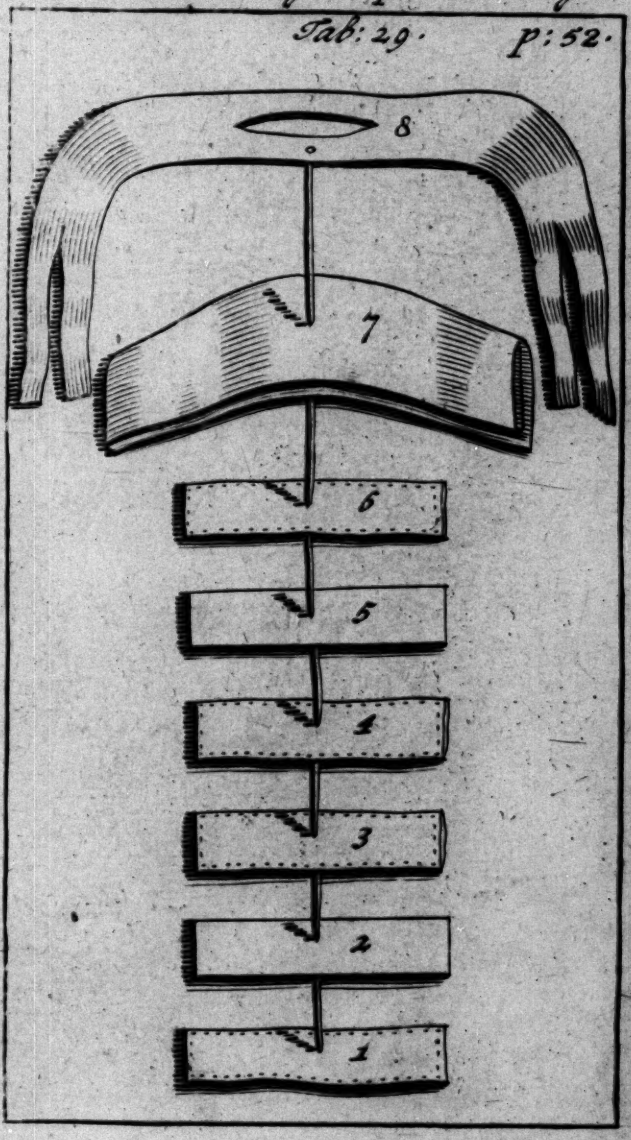
P: 52.



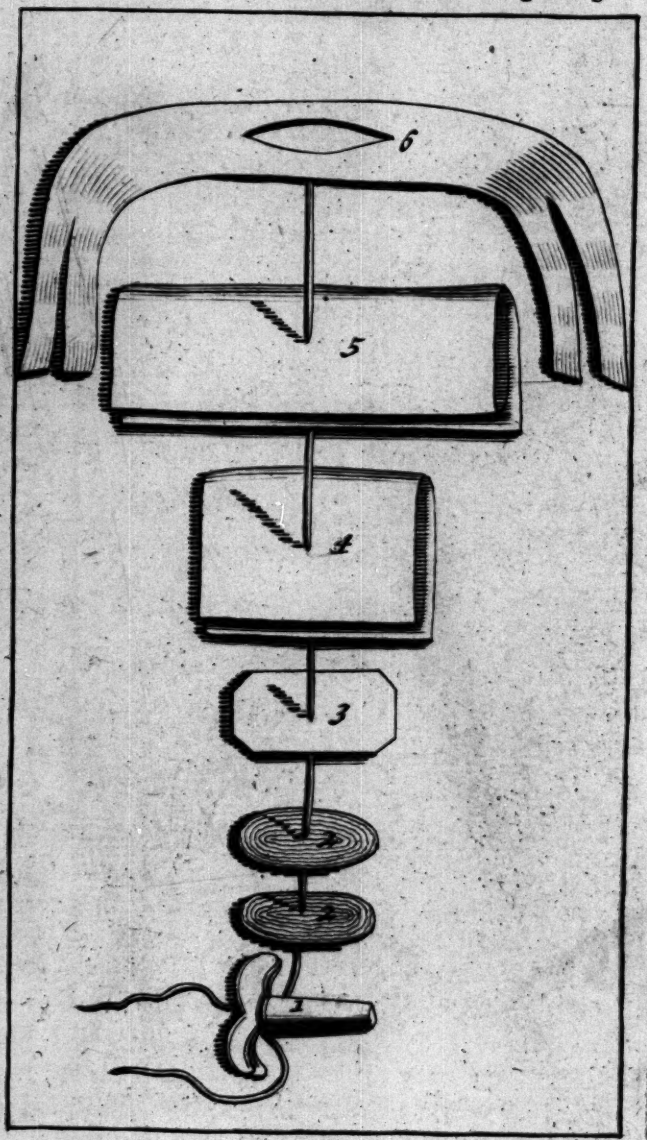


for the Fracture of a Spinal Process

Tab: 29. p: 52.



For the EMPYEMA *Tab: 30, p: 53.*



3. A ſmall longiſh Compreſs in ſeveral Doubles, of the ſame Bigneſs and Figure as the firſt, which is to be laid over the Paſt-board.

4. A ſmall longiſh Compreſs in ſeveral Doubles, to lay on the other Side of the fractured Spine, to keep it up.

5. A Paſt-board laid over the Compreſs, 4.

6. A ſmall longiſh Compreſs laid over the Paſt-board, marked 5.

7. A large Napkin, of a good ſoft Cloth, folded in three Leaves, rolled up at both ends, to be brought round the Body, as was deſcribed in the Dreſſing for the *Cancer*.

8. The Scapulary with which the Napkin is kept up. See what is ſaid in the Dreſſing of the *Cancer*.

The Dreſſing for the Empyema.

The Operation is an Aperture, made between two Ribs, to let out the *Pus*: The Dreſſings are as follow. See *Tab.* 30.

1. A Tent of ſoft Lint to be introduced into the Wound after the Operation. This Tent muſt be ſhort, for fear of hurting the Lungs, and blunted at the End: It muſt be capped too, to prevent it from ſlipping into the Breaſt, and ty'd with a good Thread, which muſt hang out of the Wound, for the drawing it out, if it ſhould happen to ſlip into the Breaſt. For the more handſome making this Tent, cut ſeveral Bits of Cloth of an Inch and a half ſquare: Take one of theſe Pieces, by one of their Angles, and make a little Roll between the Thumb and Fore-finger, and let this Roll be brought to a Point at one End, and be bigger at the other: Roll a ſecond Piece over this, as you did the firſt, and then a third, and ſo on till your Tent be big enough, and then tie it; cut the big End with the

Sciſſors, and after cut it Length-ways, for the Space of an Inch; ſeparate to the Right and the Left, what you have cut, and form a Head, and then ſhape it round with your Sciſſors.

Take Care to blunt your Tent at the ſmall end, and to ſoften it by nibbing and managing it with your Fingers.

Some Practitioners prefer a large thick Tent made of Lint, and thruſt this, armed with a Digeſtive, into the Wound.

2. Pledgits to lay on the Wound.

3. An Emplaſter to cover theſe Pledgits.

4. A thick Compreſs, in ſeveral Doubles, to cover the Dreſſings.

5. A large Napkin folded in three Leaves to be brought round the Breaſt, to keep on the Dreſſings. See what is ſaid on this in the Dreſſings for the *Cancer*.

7. A Scapulary to keep up the Napkin. See *ib.*

If the Lungs make an Effort to get out of the Aperture, put them back with a hollow blunt Probe, or a Pipe, through which the Matter may flow out: When the Patient is dreſt, place him in his Bed, half erect, and when he feels a Weight, take off the Dreſſing, to let out the Matter which preſſes on the Diaphragm.

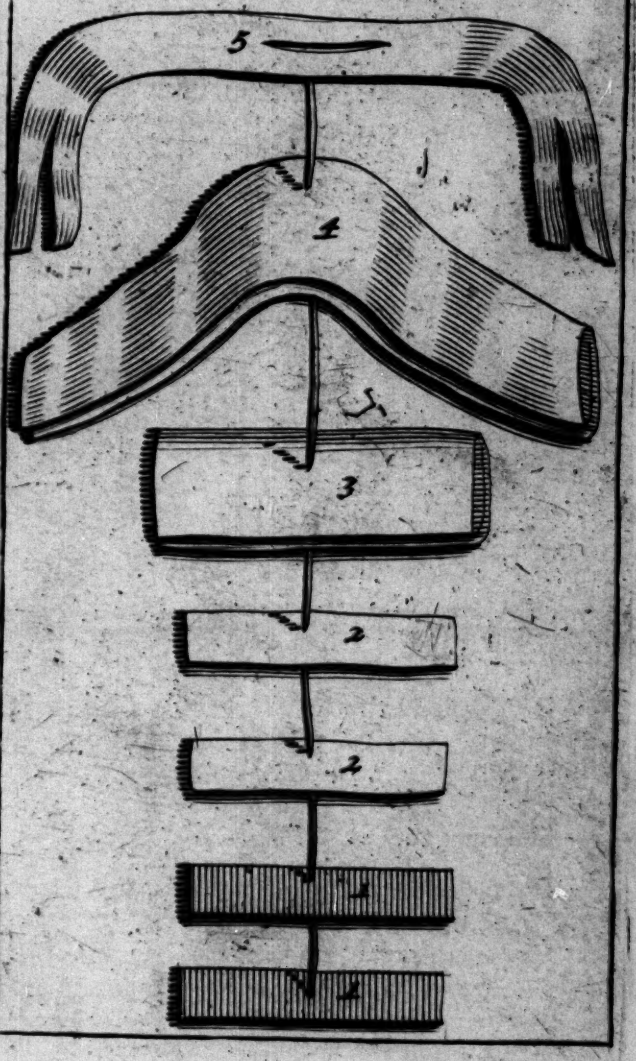
The Dreſſing for a Diſlocation of the Vertebræ. See *Tab.* 31.

1. Two ſmall Plates of Lead, to be placed length-ways on the Body of the *Vertebra* which is luxated, one on each Side the Spinal Proceſs, after the Reduction.

2. Two long Compreſſes of Linnen Rags in ſeveral Doubles, to be laid on each Side the Spinal Proceſs, over the Plates of Lead.

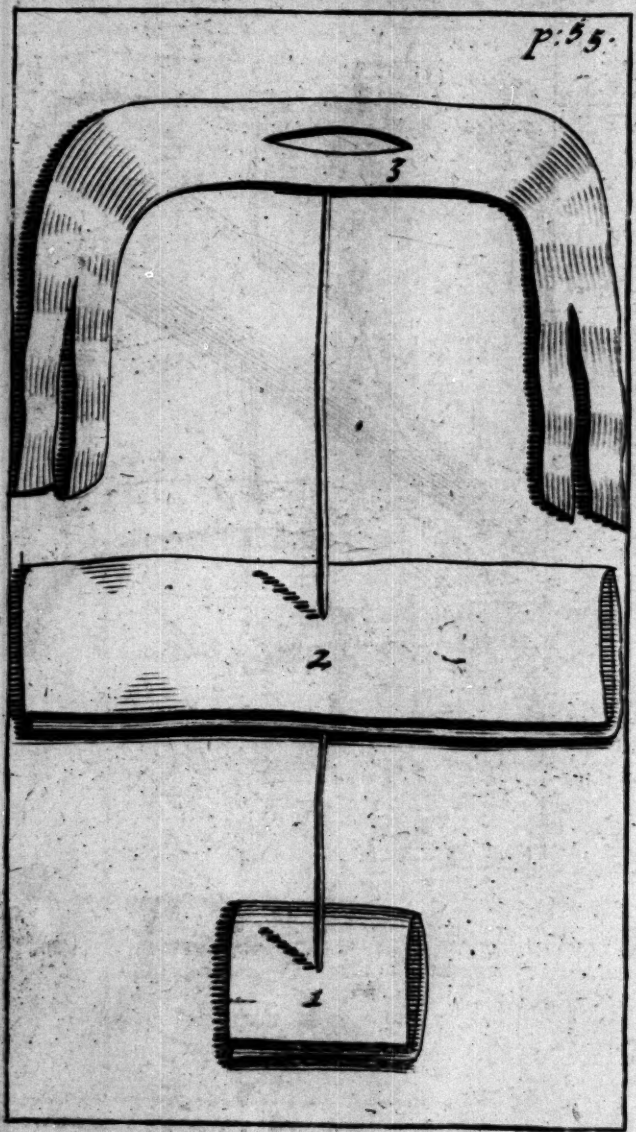
For y^e VERTEBRÆ luxated outwards

Tab: 31. p: 54.

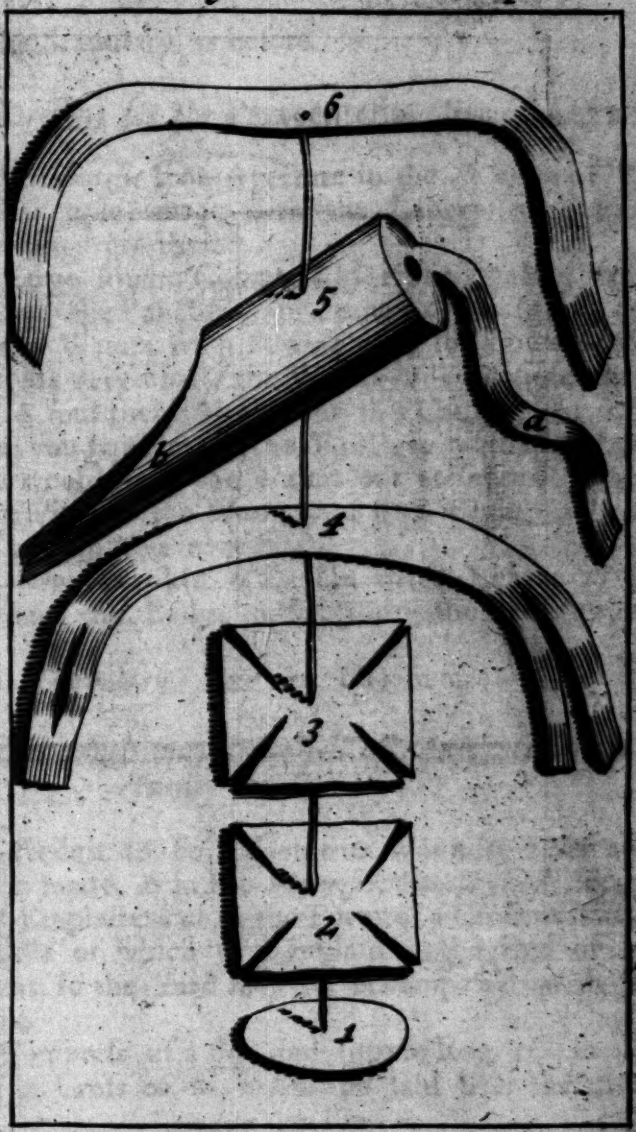


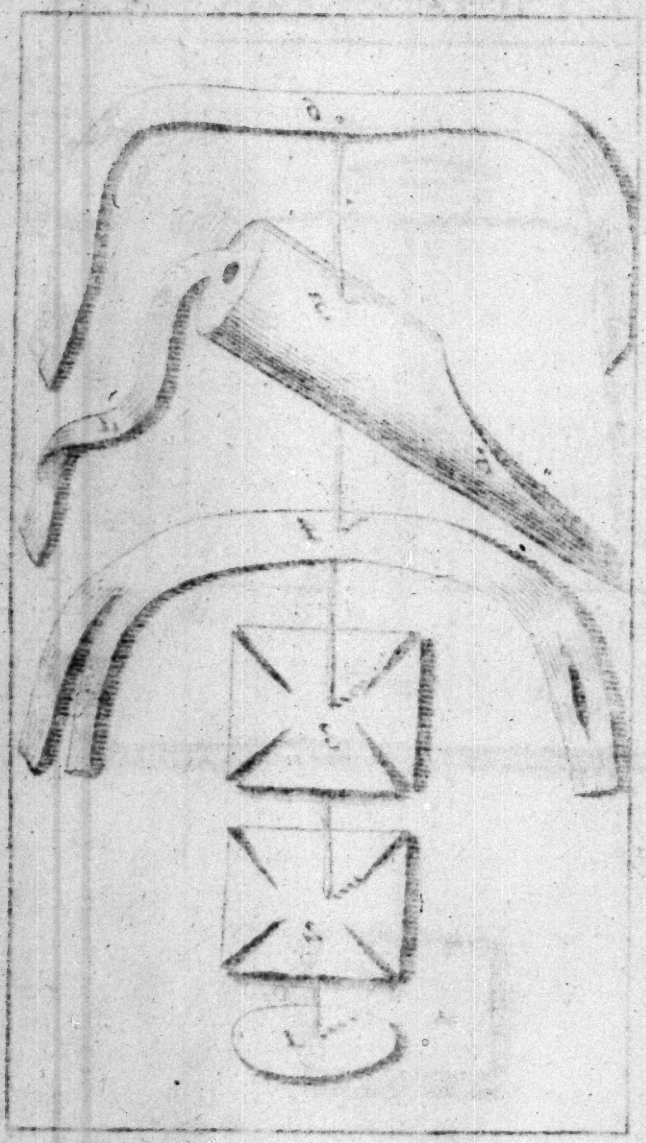
For a PARACENTHESIS *Tab: 32.*

p: 55.



For the yard Tab: 33. p: 54.





3. A large Compreſs laid over all: This muſt have ſeveral Doubles.

4. A large Napkin folded in three Leaves, to embrace the Breaſt; of which before: This muſt be pretty ſtrait.

5. The Scapulary as before.

The Dreſſing for the Paracenteſis. See *Tab.* 32.

The *Paracenteſis* is an Aperture in the *Abdomen* of Hydropical People, made with the Lancet, or *Trocar*: The Dreſſings are theſe.

1. A large ſquare Compreſs in eight Doubles to be apply'd on the Puncture, made with the *Trocar*, to hinder the Waters from flowing out; for however the Aperture be very ſmall, the Waters will tranſude thro' it, and ſo foul the Bed without this Caution.

When you have made the Puncture with the Lancet, and would draw the Waters out at ſeveral Times, leave the Pipe in the Wound, or ſtop it with a Tent, and lay a Compreſs over it.

2. A large Napkin folded in three Leaves, to be rolled round the Belly, to keep up the Dreſſings, as before.

3. The Scapulary. See the Uſe before.

Dreſſings which may ſerve for all Accidents on the Yard. See *Tab.* 33.

1. A Pledgit to be laid on the Wounds, when any Inciſion is made, as in the *Phymoſis*, *Paraphymoſis*, &c.

2. An Emplaſter cut in the Form of a Croſs of *Malta*, the Middle of which is to be laid on the End of the Yard, that ſo the Yard may be encompaſs'd with its four Tails.

3. A Compreſs of a fine and ſupple Rag, cut in the Form of a Croſs of *Malta*, to be laid over the Emplaſter.

4. A narrow Roller, or Fillet, of half an Ell long, and leſs than the Breadth of a Finger, with a Hole at one end, and cut Length-ways at the other, for the Breadth of three Fingers. Put the two Tails thro' the Hole at the oppoſite end of the Roller, and draw

them to ſtraiten the end of the Yard. Riſe with ſmall Edgings to the upper end of the Yard, and then make a Knot with the two Tails or ends of the Fillet to faſten it.

5. A Little Bag, or Limen Caſe, to keep the Yard in, with all its Dreſſings. It muſt be perforated at the end, to make Water thro' without taking off the Dreſſings. Faſten the Fillet, (which muſt be ſtrait and long enough) to a Girth which goes round the Body, to draw the Yard a little aſide, when there is an Erection, that it may not be ſeen by thruſting forward, as happens in a Priapiſm and Scalding of the Urine. This is likewiſe good in all great Inflammations, which would be leſs painful, if the Yard were ſuſpended a little.

Put two long Tapes marked B B to the other end of the Caſe, and faſten one of theſe on one Side, and the other on the other, to the Girth which goes round the Belly.

6. A Girth to go round the Belly to faſten the two Tapes to, which are at one end of the Caſe, and the third which is at the other. This Bandage is very convenient for all Diſeaſes of the Yard. If there were nothing more than an Erection, there would not be Occaſion to uſe any Thing beſides the Caſe which is fixed to the Girth, which goes round the Belly.

The Dreſſing for a Fiſtula in Ano.

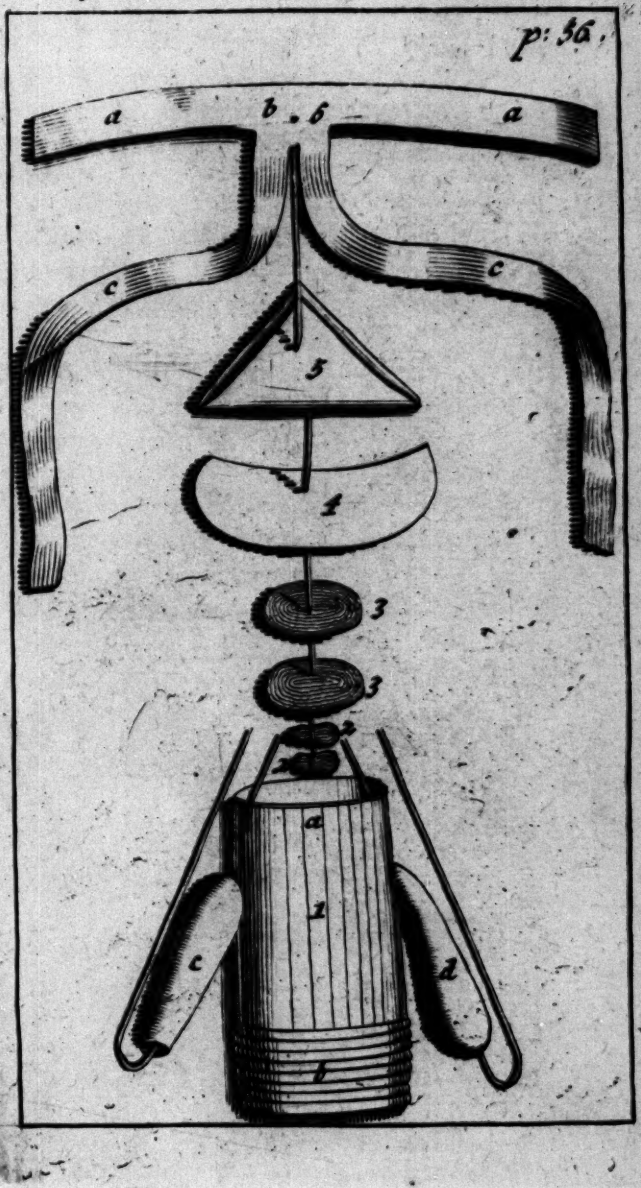
A Fiſtula in the *Anus*, or Fundament, is a Callous and Cavernous Ulcer, into which Inciſions are made to diſcharge the *Pus*. *See the Dreſſings, Tab.* 34.

1. A Machine of Leather, contrived to repreſent the *Fiſtulas* which ariſe in the Fundament. A is a Portion of the *Inteſtinum rectum*. B repreſents the Sphincter of the *Anus*. C the callous Bag or *Fiſtula*, which, with one end, opens into the *Anus*; the other ſmall end, is that which anſwers in the Buttock, where it opens likewiſe. D repreſents another *Fiſtula*, which opens only into the Gut, and not into the Buttock, where it muſt be open'd with a Lancet. E is a Wire which is paſſed thro' the Orifice made on the *Fiſtula* in the Buttock, and with the other end paſſeth into the Gut,

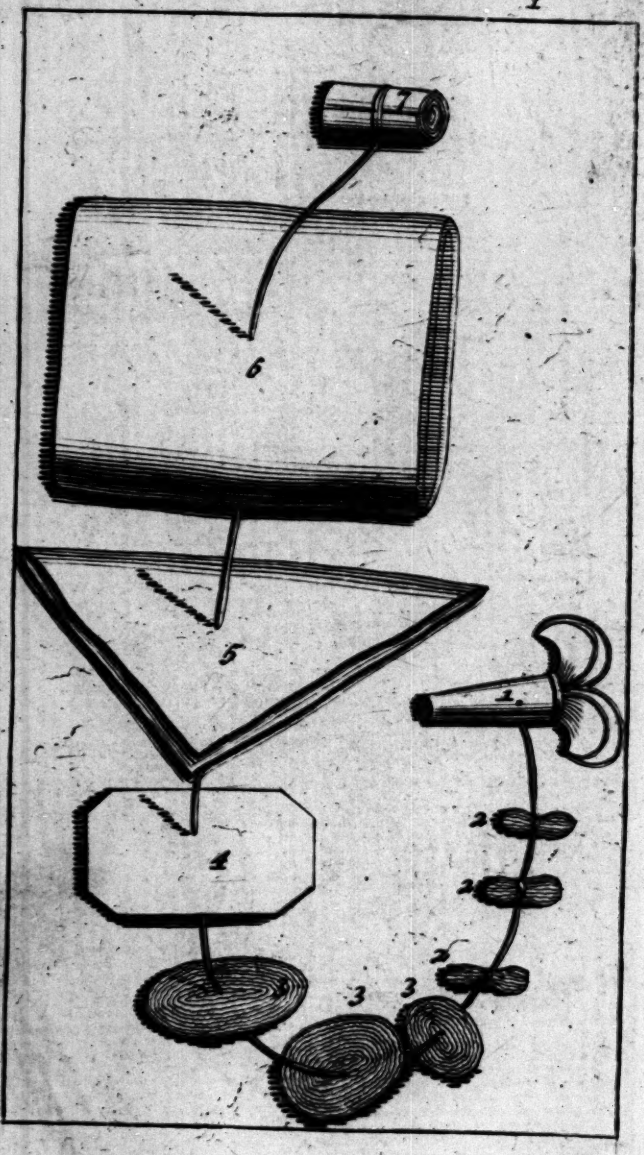
and

For 1.e FISTULA IN ANO Tab: 34.

p: 36.



For ỹ BUBONCELE Tab: 35. p: 57.



and from thence comes out by the Fundament. You muſt firſt bend your Wire as you ſee, then take the two ends which you have brought together, in your left Hand, and with your Right cut the *Fiſtula* with one Snip of your Sciſſors. This Wire ſerves to draw the *Fiſtula*, for the more convenient cutting through it. There are other Inſtruments for the making the Operation, but, for a ſudden Occaſion, this is very convenient. I thought it not impertinent to give you an Account of this ſmall Machine, tho' it regards the Operation, and not the Dreſſing, to give you a better Idea of *Fiſtulas*, which are very difficult to underſtand.

Doſſils dipt in ſome Anodyne Unguent, to appeaſe the Pain in the firſt Dreſſing; but after let them be dipt in ſome good Suppurative, and put as many of them as you can into the *Sinus*, to diſſolve the Calloſities.

3. Pledgits to cover the Doſſils: For the firſt Dreſſing, dip theſe in ſome Anodyne Liniment, and after make uſe of Digeſtives.

4. An Emplaſter of *Diapalma*, or ſome other, as you judge convenient for covering the Pledgits. This muſt be cut on one Side, in Form of a Creſcent, that ſo it may fit the Side of the *Anus*.

5. A great Compreſs made Triangular, that it may be more handſomly apply'd by putting the greateſt Side towards the Fundament.

6. The double T to make a Bandage for the keeping on all the Dreſſings. This is made of three Pieces ſtitch'd together. Put the Middle B on the Back: Paſs the Straps C C between the Legs; croſs them, and bring them over the Dreſſings, and faſten them to the Girth A A which goes round the Body, tying them one on the one, and the other on the other Side.

The Dreſſings for all other Indiſpoſitions of the *Anus* are the ſame in the whole. The Additions and Diminutions cannot be provided for, but depend on the Surgeon's Judgment.

The Dreſſings for a Perfect and Imperfect Hernia, *or Rupture.*

A *Hernia*, or Rupture, is the Falling of the Guts or *Omentum*, or ſome other of the Inteſtinal Parts, into the Groin

Groin or *Scrotum*. When theſe Parts fall into the Groin, the Rupture is imperfect; but if they fall into the *Scrotum*, it is ſaid to be perfect.

To reduce theſe Parts into their natural Situation, make a large Inciſion on the Swelling, and then dreſs the Wound in the following manner. See *Fig.* 35.

1. A large capped Tent made of Linnen Cloth, to be introduced into the Hole or Ring of the Muſcles after the Guts are reduced. This Tent muſt have a Head, and be ty'd at the upper end with a good Thread, which may hang out of the Wound, to draw out at Pleaſure, and prevent it from ſlipping into the Belly. We have ſhewn the Manner of making this in the Chapter of the *Empyema*. Before you introduce this Tent into the Rings, arm it with a good Digeſtive. That uſed in the *Hotel-Dieu*, is made up thus:

Take Oil of Roſes three Ounces, three Yolks of Eggs; beat theſe with a Stick in a Diſh, till the whole be very well mix'd; and this is a very good Medicine againſt all Accidents. The Tent muſt be blunted at the end, for fear of hurting the Gut, and muſt be long enough to hinder the Guts from beating on the Rings, which would hinder the Coalition of the Wound.

Some Practitioners prefer a thick ſhort Tent, made of Lint; but it ordinarily happens that this Tent fruſtrates the Operation, as I have heard M. *Morell*, an able Surgeon of *Paris*, affirm, it not being ſtiff enough to reſiſt the Impulſion of the Guts.

2. Doſſils made of Lint, and dipt in the abovemention'd Medicine, to fill up the Wound.

3. Pledgits of Lint dipt in the ſame.

4. A large Emplaſter to cover the former Dreſſings.

5. A large Triangular Compreſs to be laid over the Emplaſter. This muſt be in ſeveral Doubles, and its largeſt Side laid towards the Groin.

6. A great ſquare Compreſs in four Leaves, which muſt cover the Dreſſings, and the whole Belly. This Compreſs is made uſe of, becauſe, before the Bandage is made, the Belly muſt be anointed with a ſtrengthening Liniment; and this keeps the Patient's Linnen and Clothes from being fouled by the Medicine.

7. A

Tab: 36. Trusses
p: 59.
a
1
b
b
c
3
a
a
2
a
1
b
b

7. A Roller of an Inch and a half broad, and three ells long, rolled up at one end only, for making the Bandage call'd the *Spica*. To make this, put the end of the Roller on the Hip oppoſite to the Side affected, and then bringing it over the Belly and over the Wound, paſs under the Buttock: Bring back the Roller over the Wound, and there make an X: Turn under the back; paſs over the Hip, over the Belly, and over the Wound, and there make an edging; paſs over the Thigh; turn round and make a ſecond X. Continue thus the Turns of your Roller, till the whole Dreſſing be covered, and end with ſeveral Rounds about the Body. This is the Bandage which is moſt commonly made for this Operation: It is good, but it were to be wiſhed that it were more convenient, for the Patient muſt ſtrain to raiſe himſelf for the carrying the Roller under.

If the Rupture were perfect, and an Inciſion were made into the *Scrotum*, it ought to be filled with Pledgits dipt in the aforeſaid Liniment, and a Compreſs laid over all, and the *Scrotum* kept up in a Suſpenſory or Bag-Truſs, which ſhall be deſcribed.

Several different Kinds of Truſſes for Ruptures.

See *Tab.* 36. *Fig.* 1.

1. A Truſs made of Dimety, of which A is the Girth that goes round the Body, where it is faſten'd by Tags at the end. *B B* are two Balls which muſt be pretty hard; theſe are to be apply'd on the Groin on each Side on the Places of the Rings. When there is a Rupture only on one Side, it is beſt nevertheleſs to uſe the double Truſs, becauſe it is more ſteddy on the Part. *C C* are two Straps faſten'd to the under Part of the Balls. Theſe Straps muſt paſs between the Legs, and be brought up behind, and faſten'd to the Girth one on each Side.

This Bandage is good in ſmall Ruptures, but uſeleſs in large ones, where you muſt have recourſe to Steel Truſſes. *Tab.* 36. *Fig.* 2.

2. A Truſs for the Right Side, which may be made of a thick Iron Wire, and muſt be lined with Dimety in the Place *A*, where it is apply'd on the Swelling,

Swelling, or on the Groin. This Truſs is good in ſmall Deſcents.

3. Another for the Left Side. Theſe are to be ty'd by Straps faſten'd to their ends, as common Steel Truſſes. They have this Convenience, that the Surgeon can make them when he has Occaſion, or is in a Place where he cannot procure Steel ones, which are only to be had in great Cities. *Tab.* 36. *Fig.* 4.

4. A Truſs made with a thick Iron Wire for the *Exomphalos*. Make a great Ball of Cloth on the upper Plate of the Iron marked *A*, which muſt be apply'd on the Swelling of the Navil; and let Balls be made likewiſe on the Plates of Iron marked *B*, which are to be apply'd to the Groin. Theſe laſt ſerve to keep the Truſs better on the Swelling of the Navil.

This Truſs is very convenient for Ruptures of the Navil, which you dare not attempt to reduce. It has this Advantage, that being made of Wire, by its Springineſs it yields to all the Motions of the Belly in Inſpiration and Expiration.

Put a Strap of Leather to the end of the Branch which goes round the Body, to faſten it in the ſame manner as other Steel Truſſes.

Divers Peſſaries to put up the Neck of the Womb. Tab. 37.

1. A great Peſſary to be introduced with the Hand, into the Neck of the Womb after it is reduced into its Place. Thruſt this as far as may be into the Neck of the Womb, and faſten it with a Ribbon round the Thigh, that it may not ſlip too far up, becauſe it would be difficult to draw it out. This Peſſary muſt be made with the thickeſt Cork you can get. It muſt have a large Hole in the Middle for marry'd Women, but a ſmall one may ſerve for Maids, if it be large enough for the Paſſage of their Courſes. This Peſſary muſt not be round, but have Angles blunted, which ſtays better.

I have ſeen a Woman in the *Hotel-Dieu*, who having had a Deſcent of the Womb, had put into the Neck a ſmall Ball of Box which ſhe had paſſed above the *Os Pubis*, and not being able to get it out, had

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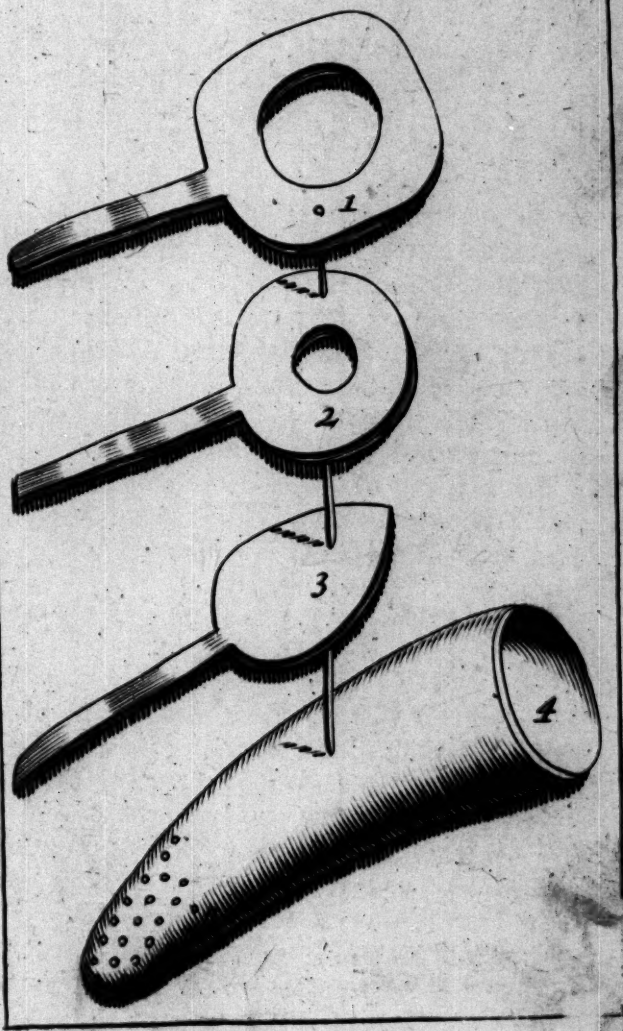

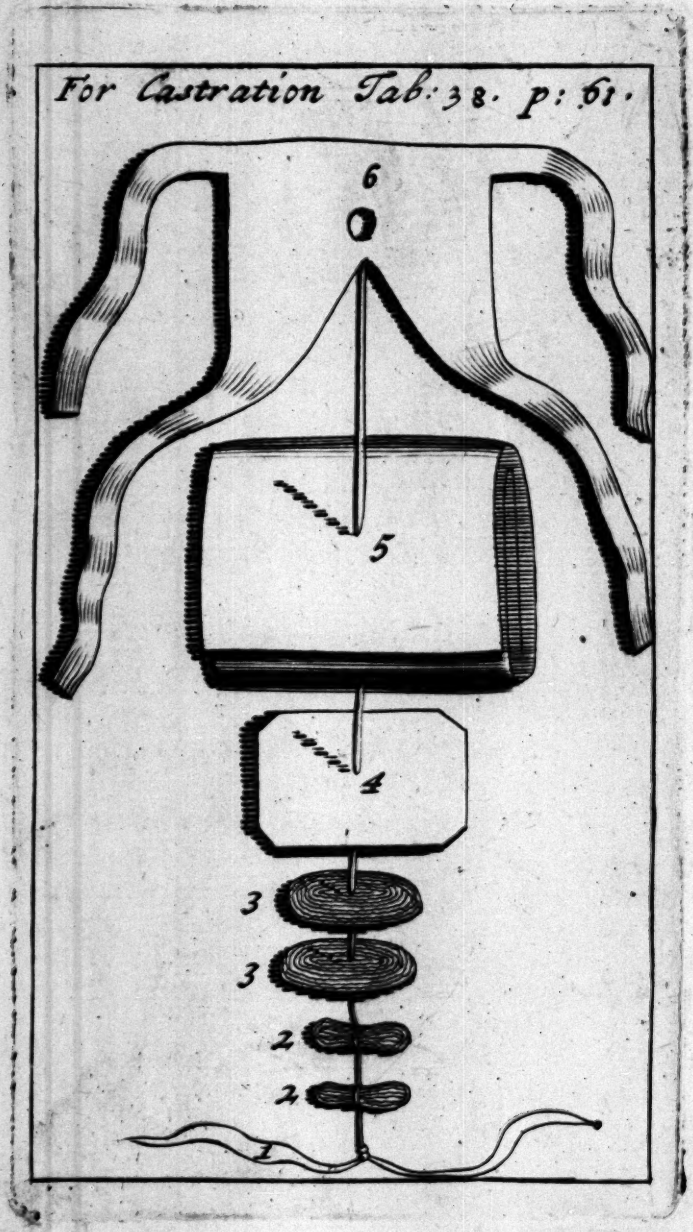
For Castration Tab: 38. p: 61.
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had carry'd it there for fifteen or twenty Years, without having any falling out in all that Time. This Woman being brought ill into the *Hotel-Dieu*, tells a Surgeon of it, who, with a *Forceps*, drew it out, in the ſame manner as is us'd in cutting for the Stone. You muſt take care to prevent Accidents of this Kind, for this would hinder Generation, and if the Woman happen'd to be with Child, ſhe could not be deliver'd. See *Fig.* 2.

A round Peſſary introduced into the Womb to keep it up. This is not ſo good as the former, upon the Account of its Figure. I mention it only becauſe ſome Practitioners make uſe of it. See *Fig.* 3.

A ſolid Peſſary made in Form of a Cone. This Peſſary is good for young Girls, becauſe it is leſſer and more eaſily introduced than the others, and you muſt make as little Dilatation in Maids as is poſſible: But it is not ſo ſteady as the firſt, by reaſon of its Figure. Tie this too round the Thigh with a Ribbon. See *Fig.* 4.

A large Peſſary made hollow like a Horn with ſeveral Holes. This is put up the Neck of the Womb to receive Fumigations.

The Dreſſing for Caſtration.

Caſtration is an Amputation of the Teſticle when it is Gangren'd or Mortify'd, or is ſo ſtraitly united to the Gut, that it cannot be ſeparated without taking off pretty much of its Subſtance, or when it is contuſed and bruiſed, and the Circulation is interrupted, or it is Varicoſe. When the Operation is made, apply this Dreſſing. See *Tab.* 38.

1. A good Wax Thread in four Doubles, for tying the Veſſels as high as may be towards the Belly, before you take off the Teſticle. Firſt make a Turn as near the Rings as you can, and tye it, then make a ſecond Turn, and make two Knots above. It is beſt to leave the ends of the Threads without cutting them, and draw them a little to the Side of the Wound.

2. Several Doſſils of Lint to be dipt in ſome good Digeſtive to promote the Suppuration, and diſſolve the

the Carnoſities, which moſt commonly attend this Indiſpoſition.

3. Large Plegits of Lint for covering the Doſſils and Wound, being firſt dipt in ſome good Digeſtive.

4. A large *Diapalma* Emplaſter to cover the whole.

5. A Compreſs in four Doubles, to cover the Emplaſter.

6. A Bandage of the *Scrotum* with four Tails. Bring the two upper round the Body; then croſs the lower one over another, ſo as to form a ſort of Pocket or Bag to put the Stones into, paſſing the Yard thro' a Hole made in the undivided Part. Raiſe the two Tails, or lower Straps, and bring them on each Side over the Groin, to faſten them to the Girth which goes round the Body.

This Bandage is very convenient, and preferable to any other, becauſe it may be made as great or as ſmall as you pleaſe, by croſſing the Tails more or leſs over one another, and with three or four Cuts of the Sciſſors it is done.

The Dreſſings for Cutting or Extracting the Stone out of the Bladder.

This Operation is an Inciſion into the *Perinæum* to fetch the Stone out of the Bladder; after which the following Dreſſings are made. See *Tab.* 39.

1. A large ſquare Compreſs in ſeveral Doubles, to be apply'd on the Wound made in the *Perinæum*, that ſo the Patient may be carry'd into his Bed as ſoon as he is cut, for fear leſt the Air ſhould hurt the Wound.

A robuſt Fellow muſt carry the Patient to his Bed in his Arms, and have one Hand on the Compreſs to keep it on the Wound. When the Patient ſhall be laid in Bed on his Back, with his Knees raiſed, the Surgeon may take off the Compreſs, and apply the following Dreſſings.

2. A Tent of Lint to be introduced into the Wound, when there is Ground to believe ſome Fragments of the Stone are in the Bladder, which is known by looking on the Stone which is taken out, for if it appear to be broken, it may be imagined there remain ſome Parts in the Bladder. On the contrary, if

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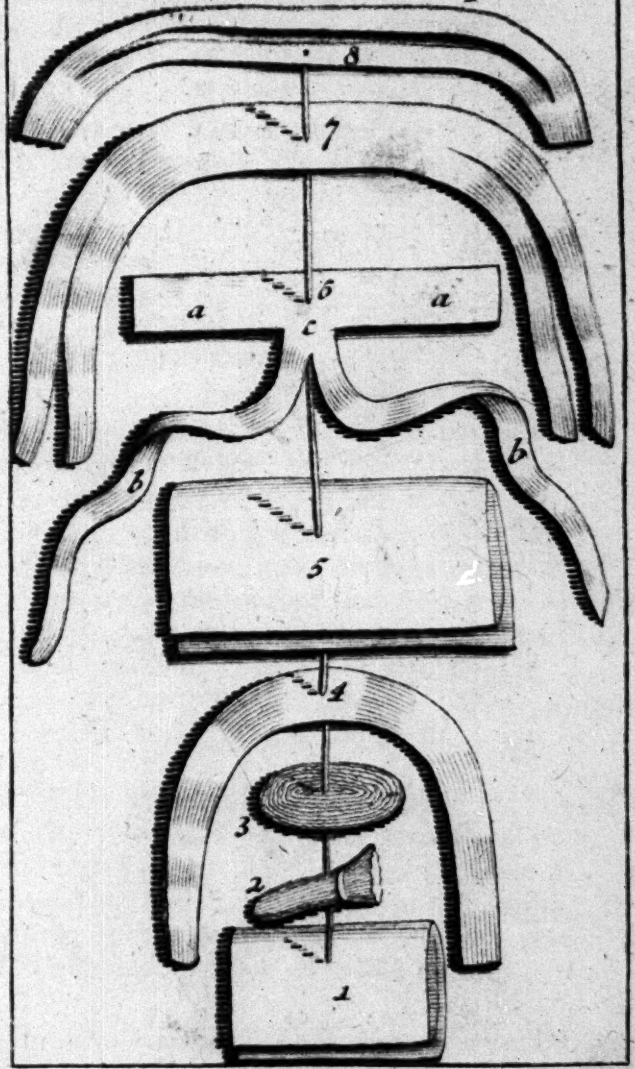
For Lithotomy Tab: 39. p. 62.



it be polite and ſmooth, it may be believ'd to be entire. But inſtead of the Tent, I think it better to put a Silver Pipe into the Wound.

3. A Pledgit of Lint as long as the Wound, which it is laid over, being firſt cover'd with Bole to ſtop the Blood.

4. An Emplaſter to lay over the Pledgit: This muſt be ſhaped like a Horſe-ſhoe, and be cover'd with Bole. The broad Part is apply'd on the Wound, and the two long Branches towards the Groins between the Cods and the Thigh.

5. A large oblong Compreſs doubled, dipt in warm Oxycrate, which is apply'd over the Dreſſings, and with the other end the Cods are kept up, being firſt humected with Oil of Roſes, to aſſwage the Pain.

6. The Double T to keep up all the Dreſſings. Bring the Girth *A A* round the Bottom of the Breaſt, and the Place *C* under the Back; then croſs the two Tails or Straps *B B* between the Thighs, and apply the Place where they croſs on the Wound. Bring theſe two Straps up, and faſten them on each Side to the Girth *A A*, which you have brought round the Body, having firſt well embrocated the Abdomen with good Oil of Roſes, as well as all the contiguous Parts.

In the *Hotel-Dieu*, inſtead of the double T, they make uſe of a large Sling with four Tails. This Bandage is good, and, if you think fit, may be made thus.

7. A Sling with four Tails. Apply the undivided Part on the Wound; bring the two Tails behind on each Side, and faſten them to the Scapulary; bring the two other Tails up before, and, croſſing them, faſten them to the Scapulary, as before.

8. The Scapulary often deſcrib'd before.

The Dreſſing for a Diſlocation of the Thigh.

This is made with a large ſimple Compreſs, wetted in Oxycrate, or Wine heated, to encompaſs the Joint, and then make the Bandage called *Spica*, with a Roller with one Head two Inches broad, and five or ſix Ells in Length. Suppoſe it was the Left Thigh which was out: Apply the end of the Roller on the Right Hip,

Hip, your Patient lying on his Back, bring it over the Belly, and then over the Hip on the Side affected; turn under the Thigh; re-aſcend over the Hip affected, and there make an *X* over the firſt Turn of the Roller; turn behind the Patient's Back; paſs over the ſound Hip, over the Belly, over the Hip affected, and make an *X* and an Edging on the firſt Turns: Continue the Turns of your Roller, till the Hip be quite cover'd with the *X*'s and Edgings you have made. As theſe *X*'s fall one a little ſhort of the other, by means of the ſmall Edging, there is a ſort of a Figure made, reſembling the Ears of Corn, from whence this Bandage derives its Name. You muſt not make any *Spica* on the ſound Hip, but only Rounds, that is, you paſs the Turns of the Roller one over another, without leaving any Edging either on that Hip, or the Belly, or behind the Back, but only on the Part affected. Faſten the remaining Part of your Roller by Rounds about the Body, and ſo pin it.

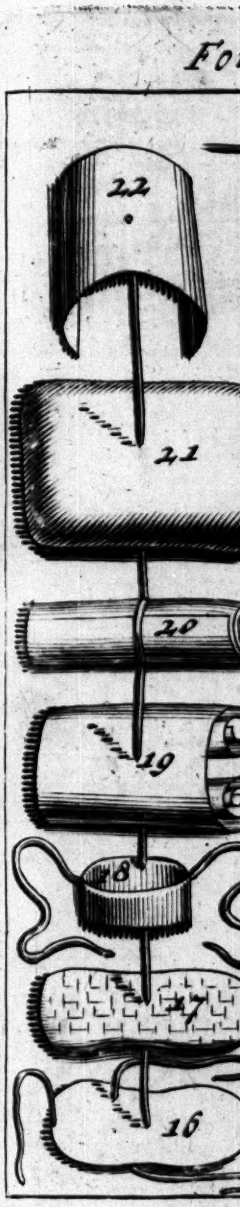
The Dreſſing for a Fracture of the Thigh.

1. A ſingle Linnen-Cloth, ſteeped in Oxycrate, or Red Wine, in which the Thigh is lapped, laying the Middle on the Fracture.

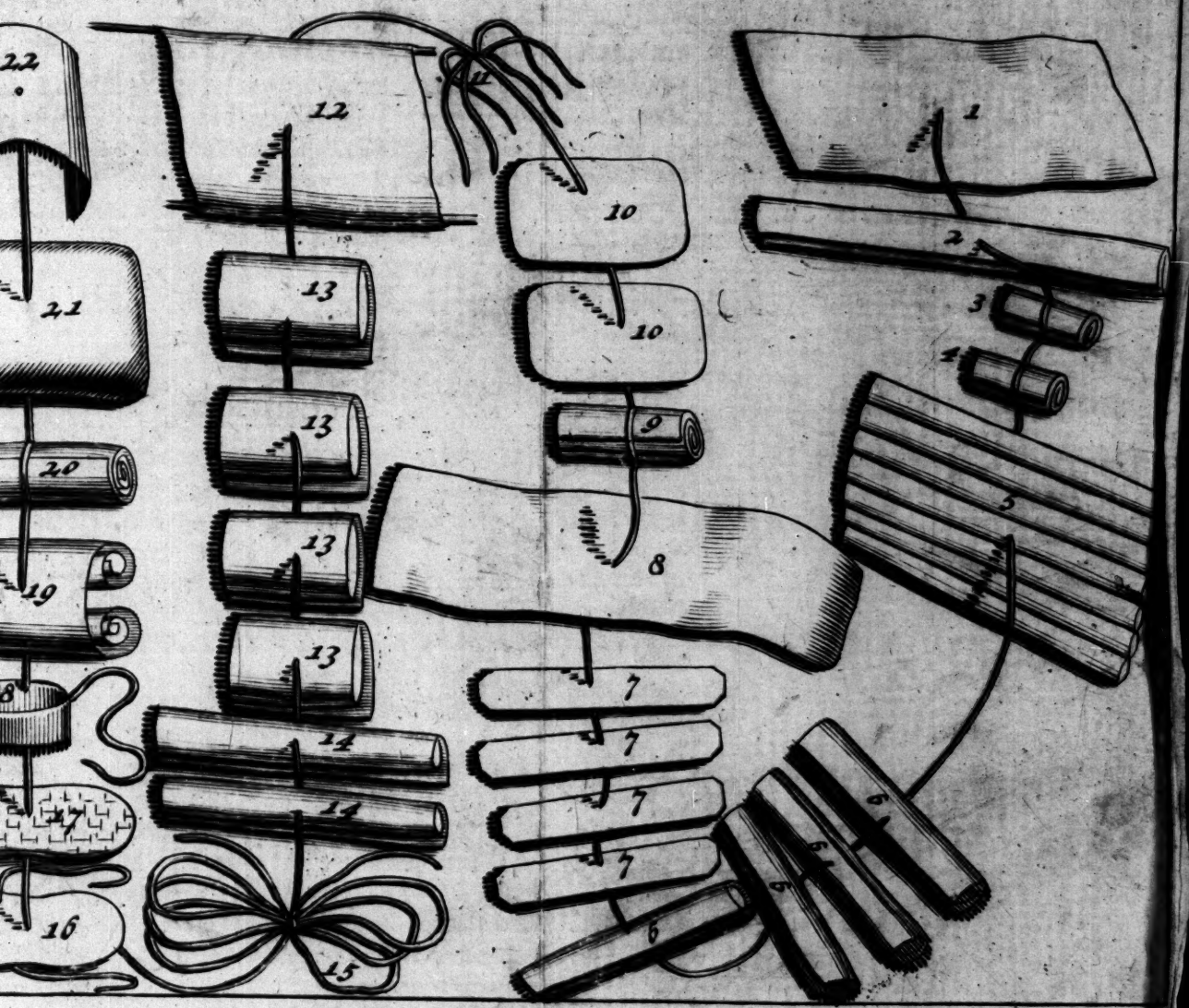
2. A large Linnen Compreſs, laid all along the Thigh, to fill the Curvity, that one Leg may not be longer than it naturally ought to be: If this Curvity were not filled, the Splints would depreſs the Bones, and the Thigh become too long: This Compreſs muſt be thick enough, and as long as the Thigh. Caſt your Eyes on your Skeleton, to obſerve this Curvity.

3. A Roller with one Head, three Ells long, and two Inches broad: Make three Rounds pretty cloſe about the Fracture; then riſe to the upper end of the Thigh with ſmall Edgings, and faſten it about the Thigh with Rounds.

4. A Roller with one Head, four Ells in length, and two Inches broad: With this make two Rounds on the Fracture; deſcend with ſmall Edgings, and faſten the Roller with ſeveral Rounds below the Knee, without



For a Fracture of the Thigh Tab: 40. p: 64:



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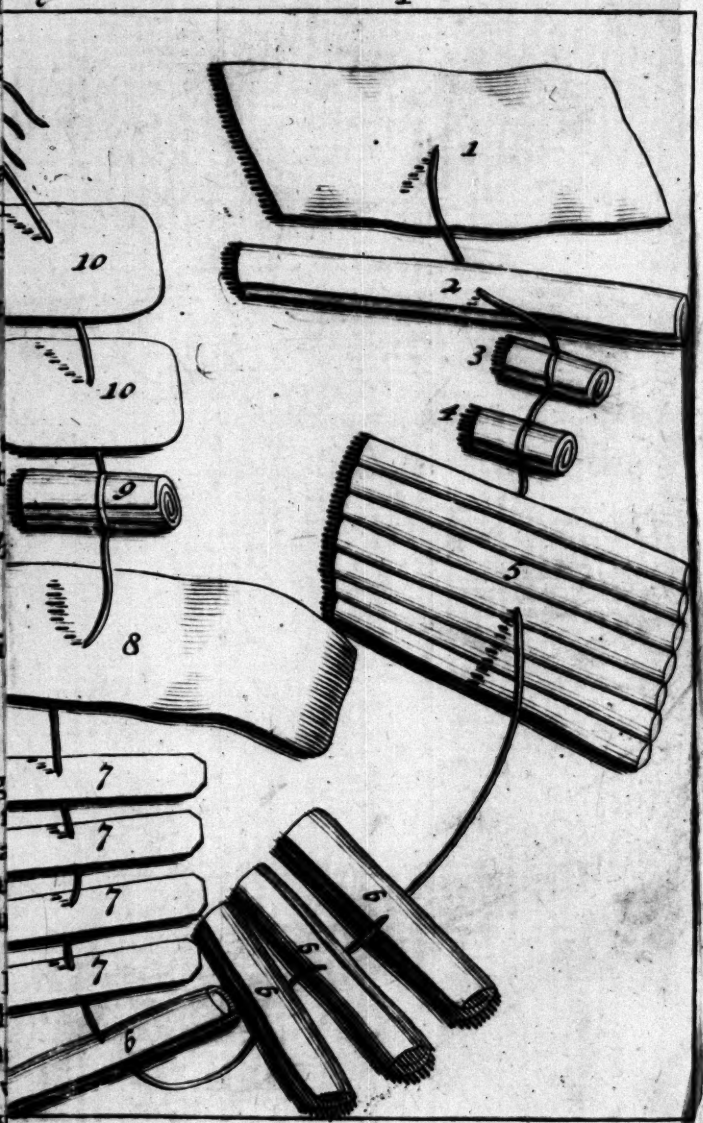

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without covering this, having filled the ſmall of the Thigh with graduated Compreſſes, before you go ſo low.

5. A graduated Compreſs turned round the Thigh, above the Knee, to make the Limb equal. The Edgings muſt be continued, by deſcending over the Compreſs, and the Roller faſten'd by ſeveral Rounds, about the upper Part of the *Tibia*, that is below the Knee.

6. Four long Compreſſes of about ſix Inches, in four Doubles, to be apply'd on the Fracture: They muſt be of the breadth of three Points of a Finger, and laid ſo, that the Spaces between them may be equal.

7. Four Splints of the ſame Length and Breadth as the Compreſſes laid over them: Theſe Compreſſes muſt be rounded at the end, muſt be very ſlender and pliant, and made of a very light Wood.

8. A large Compreſs of Linnen-Rags, dipt in Oxycrate, or Wine heated, to embrace the Splints, as a Step towards keeping them faſt on the Part.

9. A Roller with one Head, four Ells long, and two Inches broad, with which the Splints are embraced: Begin to apply this by two Rounds about the Place of the Fracture; then deſcend, and re-aſcend the length of the Thigh with Edgings, and faſten the Roller where it ends.

10. Two large Paſtboards, ſhaped round at the end, which muſt embrace the whole Dreſſing, without touching it: Theſe are to be dipt in the ſame Liquor, in which you have wetted your Dreſſing, to ſoften them, that ſo they may adjuſt themſelves the better to the Part.

11. Three or four Ribbons to tie the Paſtboards which embrace the Dreſſings: Here you muſt begin to tie that which is in the Middle.

12. Great Junks to lay the Leg and Thigh in. The Branch between the Legs muſt go to the Groin, without hurting it, and the external Branch muſt go along on the Side of the Body, the better to keep the Leg and Thigh, and hinder the Patient from being lame, which would happen, if the Junks were too flat.

13. Four little Cuſhions, or thick ſquare Compreſſes, two of which are placed, one on each Side, to fill up the Cavities which are below the Knee, and

two more, one on each Side the Ancle: If you have none of theſe ſmall Cuſhions, pretty thick ſquare Compreſſes may ſuffice, and would be as good. Theſe laſt are uſed in the *Hotel-Dieu.*

14. Two thick Longitudinal Compreſſes, one of which is laid on the Thigh length-ways, and the other on the Ham length-ways, to fill the Cavity between the Junks, and tie the Junks more neatly together: Some Practitioners will not admit any of theſe Compreſſes on the Thigh or Leg, becauſe they preſs it too much. You may do as you think fit.

15. Seven Ribbons to tie the Junks, that is, three for the Leg, beginning with that in the middle; three for the Thigh, and the ſeventh to tie round the Body of the Branch of the Junk, which externally aſcends towards the Arm-pit: It wou'd be very convenient to encompaſs the Branch of the Junk, which goes under the Arm-pit, with two large Napkins, folded length-ways; one of which ſhould paſs round the Belly, and the other round the Breaſt.

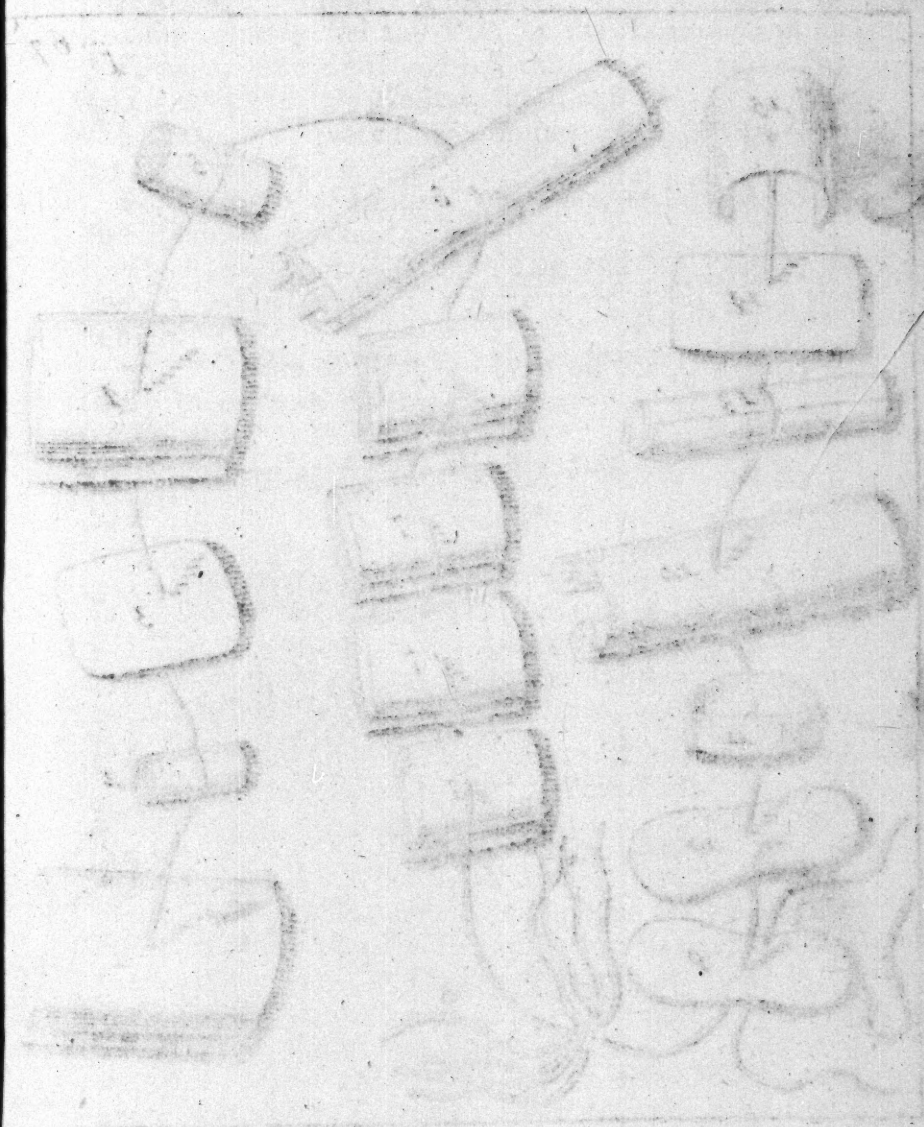
Obſerve that you muſt ſpread theſe Ribbons on the Bed, before you place the Junks, becauſe otherwiſe, you would be obliged to ſtir the Leg for each Ribbon, which would be very dangerous: Make the Knot on the Side of the Junks.

16. A Soal made of Wood or Paſtboard, to ſupport the Patient's Foot, which muſt be kept ſtreight.

You muſt faſten three Ribbons to this Soal, that is, one at the end, the other end of which muſt be faſten'd to the Longitudinal Compreſs, which is laid length-ways all along the Leg; and two more, one on each Side of the Soal: Croſs theſe laſt, and faſten their other ends to the Sides of the Junks, near the Middle: Theſe three Ribbons ſerve to keep the Soal ſtreight againſt the Patient's Feet.

17. A ſmall Quilt, made of ſome proper Stuff to be ſow'd over the Soal, whoſe Size and Shape it ought to have, for the more eaſy reſting of the Patient's Foot.

18. A ſmall Ball or Roll, on which the Patient's Heel may reſt: Some late Practitioners reject this, affirming that it hurts the Heel: They chuſe rather to roll up a Napkin at both ends, and lay the Heel on it,



For ye ROTULA Fractured transversly Tab: 41.

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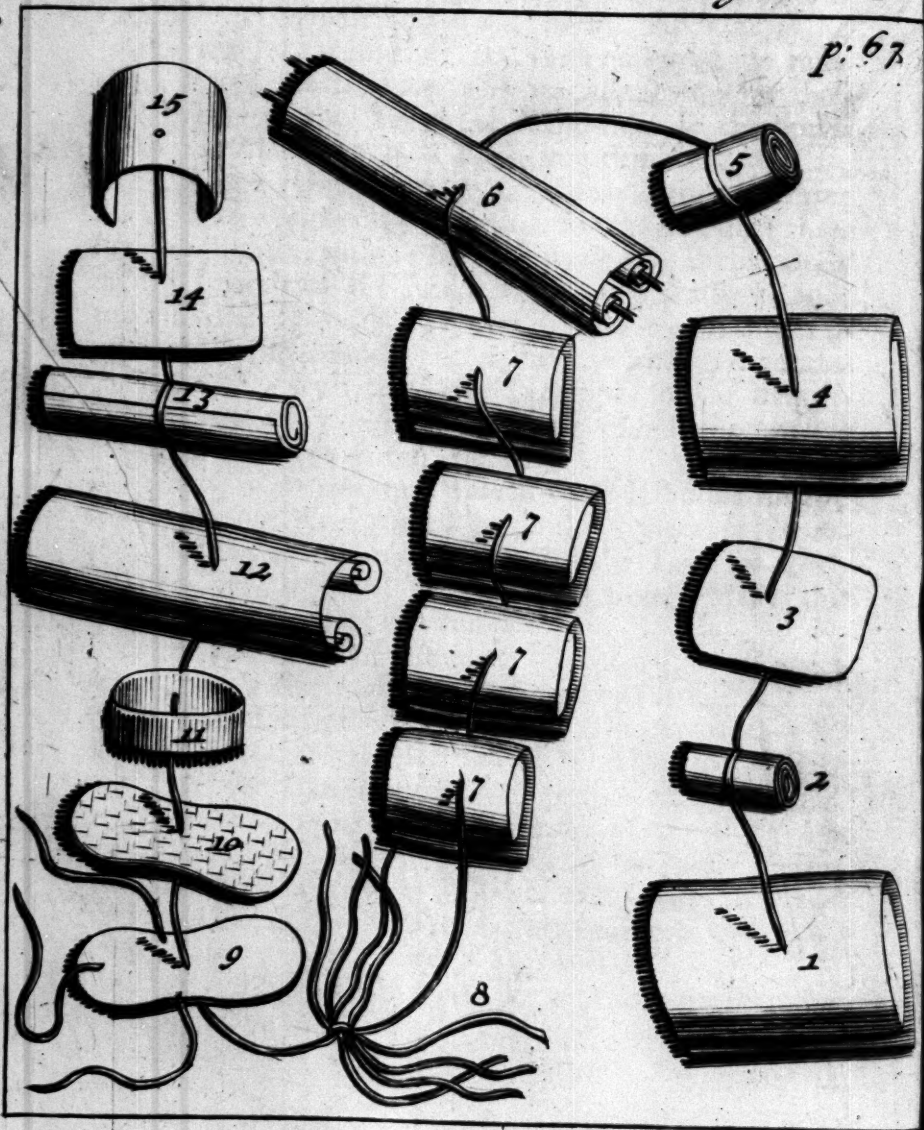

it, which, by this Means, will only bear on the Middle of it.

19. A large Piece of Linnen, rolled up at both ends like Junks, on the Middle of which the great Tendon may reſt; to wit, between the two Heads, that ſo the Heel may not be hurt. If the Patient ſhall in time come to feel any Pain in the Tendon, roll up a Cloth at one End, and reſt the Heel on it; having taken away the two Rollers, in the Middle of which the Tendon is placed, continuing thus till the Cure be compleated.

20. A Piece of Linnen rolled ſoft, to be laid under the Heel, as was ſaid.

21. A Roller on which the Leg and Thigh is placed: The Foot muſt be a little more raiſed than the Thigh.

22. A Cradle of Wood to bear off the Cloaths, and keep them from hurting the Part.

The Dreſſing for the Rotula *broken tranſverſly.* See *Fig.* 41.

1. Lay under the Ham a Compreſs of about an Inch in thickneſs, one End of which muſt advance under the Thigh, and the other under the Leg, it muſt be large enough to embrace half the Ham: This Compreſs hinders the Bandage from preſſing too much on the Blood-Veſſels and Tendons. You muſt make a Servant hold it on the Place where it is laid; and then,

2. Take a ſmall Roller with two Heads, three Ells long, and an Inch and a half broad: Apply the Middle of your Roller immediately above the *Rotula*; deſcend with the two Heads under the Ham, and croſs there; riſe round the Thigh over the *Rotula*, and there make an *X*; continue in this manner the Turns of your Roller, above and below the *Rotula*. The *X*'s, which you make there, will form a *Spica* above, and another beneath, oppoſite to the former; when this is done, faſten your Roller above or below the *Rotula*, as you pleaſe, by a Round or two, and then pin it. All the Turns about the *Rotula*, muſt be pretty ſtrait,

for fear the upper Piece ſhould be drawn up to the Thigh, by the Action of the Muſcles.

3. After this, put a great Paſtboard under the Ham, which may be large enough to embrace a Moiety, and long enough to advance a little under the Thigh and Leg: It muſt be ſhaped a little round at the end, and wetted in warm Wine, to ſoften it, that it may accommodate it ſelf to, and keep better on, the Ham. This Paſtboard hinders the Veſſels and Tendons from being too much compreſſed.

4. Place under the *Rotula* a thick ſquare Compreſs in ſeveral Doubles: This Compreſs being preſſed on the Part, by the Bandage above-deſcribed, hinders the *Callus*, which ſhould re-unite the two fractur'd Bones, from making any Inequalities on the *Rotula*, which would cauſe Pain in kneeling.

5. Take a Roller with one Head, two or three Ells long, and an Inch and a half broad; lay the end of your Roller on the *Rotula*, about which make ſeveral Rounds; riſe and deſcend with ſeveral Edgings, till the whole Part be cover'd, then ſtay it by a Round or two, and pin it. Obſerve to keep the Compreſs cloſe on the Part, to prevent the *Callus* from growing unequal.

6. The Leg and Thigh are to be placed in great Junks, which are thus made: Take a ſmall Cloth doubled, and roll it over a ſmall Staff, encompaſſed with Straw, which muſt be ſtreight, entire, and unbroken.

7. Four thick Compreſſes of Linnen Cloth, one of which is to be laid on each Side the Knee, and one on each Side the Ancles, to fill the Cavities, that ſo the Junks may be apply'd ſtreight along the Leg.

8. Six Tapes or Ribbons put under the Junks to tie them round, *viz.* three for the Legs, and three for the Thigh: Begin to tie thoſe in the Middle, and make the Knots on the Side of the Junks, on the out-ſide of the Leg and Thigh.

9. A Soal made of Paſtboard or Wood, to ſupport the Patient's Foot, and keep it ſtreight; three Ribbons muſt be faſten'd to this, *viz.* one at the End, which muſt be faſten'd by its other End, to the middle of the Longitudinal Compreſs, which is laid on the whole Length of the Leg, and one on each Side

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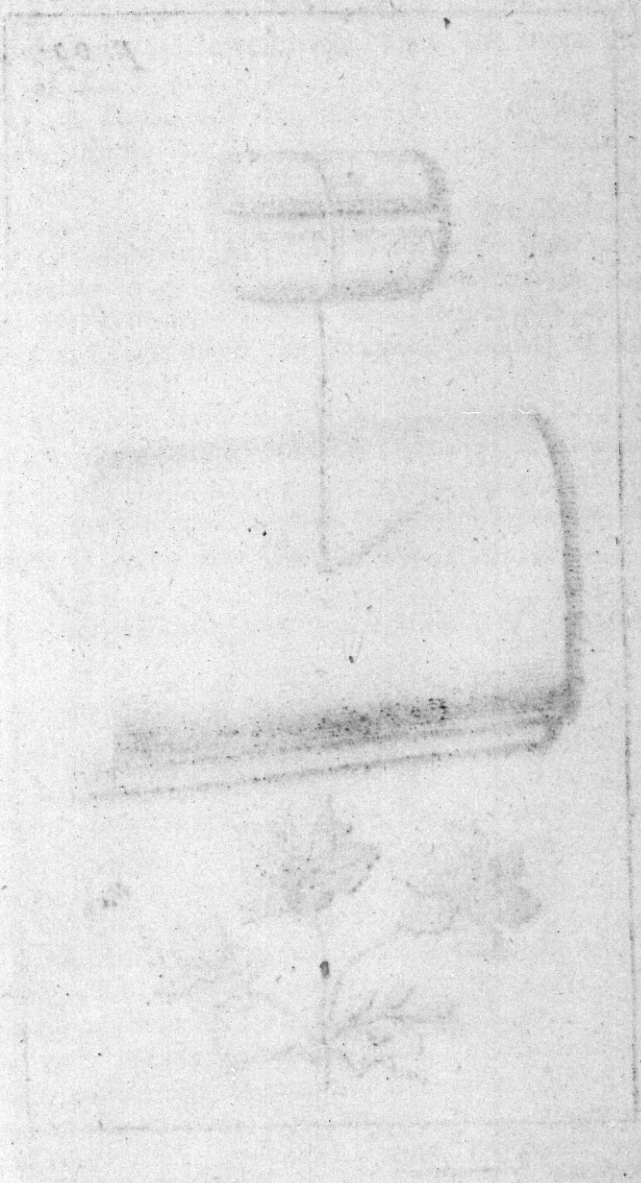
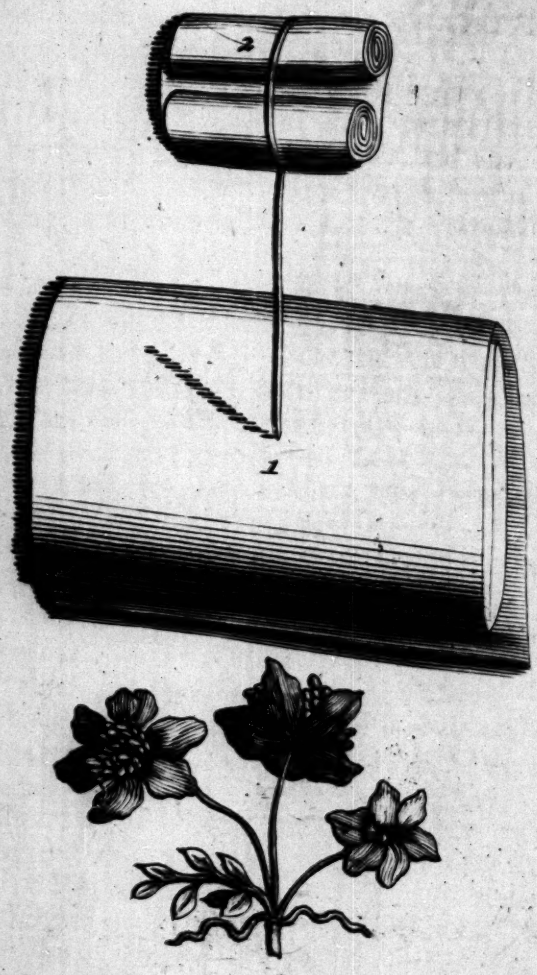


For a Dislocation of y^e Knee Tab: 42.

p: 69.



of the Soal, which muſt croſs, and have their other ends pinned to the Side of the Junks, *viz.* one on each Side, about the Middle, to ſupport the Foot, and keep it ſtreight.

10. A ſmall Quilt of the ſame Figure and Bigneſs, which muſt be ſewed over it, for the more eaſy reſting of the Foot.

11. A ſmall Roll or Ball, to ſupport the Patient's Heel. Some Practitioners reject this, becauſe it hurts the Heel, if it be continued there.

12. A great Cloth rolled at the two Ends, as the Junks, but without either Straw, or a Staff of Wood, to ſupport a great Tendon, on the Middle A, which will be kept up by the two Globes on each Side: This is better than the former, becauſe it does not hurt the Heel.

13. A ſoft Roll of Linnen Cloth, to be put under the Patient's Heel, when he is weary of the former.

14. A Pillow to lay the whole Leg on.

15. A Cradle of Wood, to be laid over the Patient's Foot, to keep the Cloaths off.

The Dreſſing for a Diſlocation of the Knee.

See *Fig.* 42.

1. A Compreſs about an Inch thick, to lay under the Ham, to hinder the Bandage from preſſing on the Blood-Veſſels and Tendons: One End of this Compreſs muſt advance under the Thigh, and the other under the Leg, and be large enough to embrace the Ham: Let a Servant keep this Compreſs on, and apply over it the following Bandage.

2. A Roller with two Heads, three Ells in Length, and an Inch and a half broad: Apply the Middle of your Roller immediately above the Knee; bring down the two Heads under the Ham, and there croſs them; turn round the Ham immediately under the *Rotula*, and make an *X* on the Leg; re-aſcend under the Ham, and there croſs; make an *X* above the Knee, approaching a little to it, ſo as to cover it by degrees; deſcend under the Ham, and make an *X* on the Leg, approaching thus gradually with *X*'s over the Knee

till it be cover'd, then faſten your Roller with ſeveral Rounds above the Knee.

For laying the Leg and Thigh in Junks, read the Deſcription before in the Dreſſings for Fractures of the Thigh.

The Dreſſing for a Diſlocation of the Rotula.

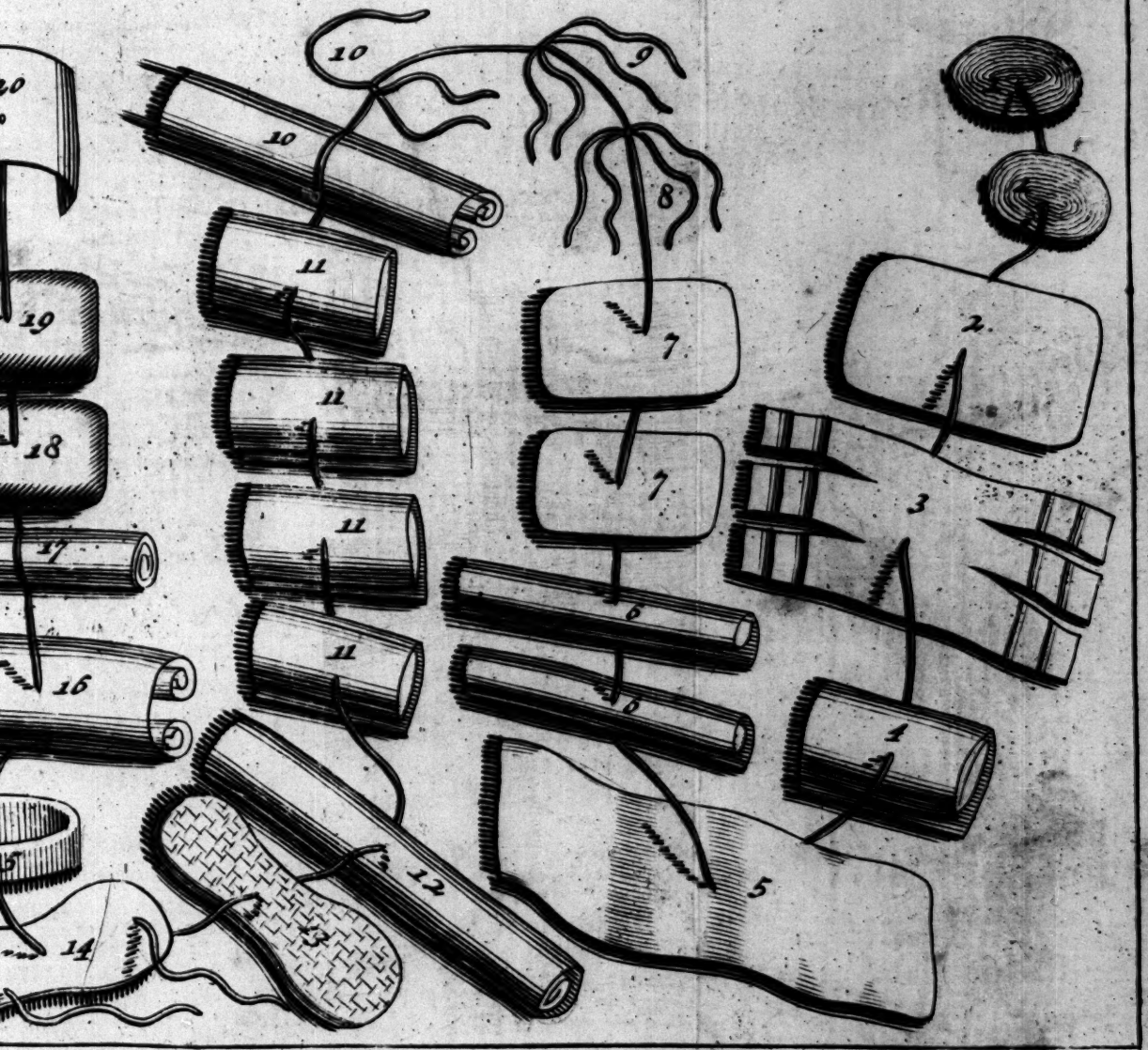
This is the ſame with that for the Knee. See *Tab.* 42.

The Dreſſing for a Complicate Fracture of the Leg. See *Fig.* 43.

1. Pledgits armed with a Liniment proper for the Wound, which muſt be dreſſed after the ſame manner as other Wounds.

2. An Emplaſter to cover the Pledgits, and the whole Wound.

3. A Bandage with eighteen Tails, to be uſed inſtead of the ſimple Roller, to prevent ſtirring the Patient's Leg at each Dreſſing. To make the Bandage with eighteen Tails, take three Pieces of Cloth, as long as the Leg, and large enough to go round it, and to croſs over it; lay theſe Cloths one over the other, and ſtitch them in the Middle: Cut theſe three Cloths at both Ends, ſo that the upper Cloth, that is, that which muſt immediately touch the Leg, may be longer by the breadth of a Finger than that in the Middle, and may be one Finger's breadth ſhorter than that which it lies over: The Reaſon of theſe Gradations is, becauſe the Tails are more eaſily taken, each in particular by the End, to apply them over the Leg. Beſides, the Cloths that are firſt apply'd round the Leg, thicken it; and for this Reaſon, the laſt muſt be larger, that they may embrace them: When the Cloths are thus cut of an unequal Length at their Ends, divide 'em length-ways into three equal Pieces, by cutting them towards the Middle, where you muſt leave three Inches in breadth undivided: By this Section, there will be nine Tails on each Side, that is, eighteen in all, from whence this Bandage takes its Name. Before theſe are laid round the Leg, let the whole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whole Cloth be dipt in Oxycrate, warm Wine, or ſome other convenient Liquor. Put this Bandage underneath the Ham, and over the Junks, firſt laying a Compreſs on it, to prevent the *Pus* from fouling it: In applying this, begin with the middle Tail, which you muſt bring ſmoothly round the Leg; paſs your Hand on the other Side, to take the middle Tail on the oppoſite Side, which anſwers to the former, or, to ſpeak more properly, is a Continuation of it. Bring theſe two Laps one over another; then raiſe the other Pieces of the firſt Row after the ſame manner: Obſerve not to lay theſe circularly round the Leg, but a little obliquely, paſſing one over the other, and ſo this Bandage will be firmer. After you have bound up the Leg with the firſt ſix Tails, lay on a longitudinal Compreſs on each Side of it.

4. A Compreſs in one Double, to be laid on the Junk, under the Leg, before any of the Tails are rais'd: This ſerves to receive the *Pus*, which flows from the Wound, that it may not ſpoil the Bandage, which cannot be taken off, and put on again, without ſtirring the Part; a Thing to be avoided as much as may be.

5. A ſingle Compreſs of linnen, to embrace the Leg, and cover the Pledgits, and an Emplaſter: It muſt be large enough for this Purpoſe; the Ends too muſt paſs over one another, and it ought to be near as long as the Leg: It muſt be dipt in Oxycrate, or Wine heated, before it be apply'd. This Compreſs is laid on the Bandage with eighteen Tails, before it be wrapt round the Part.

6. Two longitudinal Compreſſes, of ſix or ſeven Inches in length, and an Inch and a half broad, in ſeveral Doubles, which muſt be laid on the Leg, the one on the one Side, and the other on the other Side of the Leg, on the Tails which are to be brought round it; but obſerve not to lay them on the Wound: Two Compreſſes are ſufficient, becauſe the Wound takes up one Part of the Leg. I do not think that any Splints of Wood ought to be laid on theſe Compreſſes, as is done in Fractures, where there is no Wound, leſt too great a Compreſſion create miſchievous Accidents; Let a Servant keep the two Compreſ-

ſes on, and raiſe the ſecond Row as you did the firſt, beginning with the Cloth in the Middle, which muſt always be wrapped round the fractur'd Bone: In the laſt Place, raiſe the third Row, beginning in the ſame manner, with the Cloth in the midſt, which you muſt bring over the Fracture, obſerving to lay each Tail, a little obliquely, becauſe, in paſſing one over another, the Bandage is more firm, as was ſaid before.

7. Two large Paſtboards ſhaped round at the End, which embrace the whole Leg, and keep on the Dreſſings: Theſe Paſtboards muſt be dipt in Oxycrate, to ſoften them, that ſo they may ſit more neatly and cloſely on the Part, to whoſe Figure they will accommodate themſelves, when they are dry: Theſe muſt not croſs one over another: Obſerve, theſe Paſtboards muſt be ſtraiter below than above, becauſe the Leg is ſlenderer there.

8. Three Ribbons or Tapes, to keep the Paſtboards on the Part: The middle one is to be ty'd firſt, making a Knot, and over this a ſimple Bow-knot on the Out-ſide of the Leg.

9. Three Ribbons, or Tapes, laid on the Bed, under the Leg, at equal Diſtances one from the other, with which the Junks are ty'd.

10. Junks to lay the Leg in. Theſe muſt not go above three Inches beyond the Knee; for if they went to the upper End of the Thigh, this being thicker than the Leg, would not be ſo well ſupported, and the Ligature made round the Thigh, would preſs them, and draw aſide the Leg.

The Junks are made with a Cloth doubled, or in three Leaves, thus: Take a Staff about three Inches longer than the Leg; put ſome Straw about it, and bind this round with a Fillet; then roll up the Staff encompaſs'd with Straw at either End of the Cloth; and theſe are the Junks in which the Patient's Leg is to be laid.

11. Four thick ſquare Compreſſes in ſeveral Doubles, which are apply'd between the Junks and the Leg, to fill up the Vacuities, that is, one on each Side under the Ancles, and one on each Side the Leg, below the Knee, in the Cavities which are there: When the four Compreſſes are put in the aforeſaid Places, tie

the

the Junks with the three Ribbons or Tapes laid under them, making a Knot with a ſimple Bow above, on the Out-ſide the Junks.

12. A Longitudinal Compreſs laid all along the *Tibia*, between the Junks, and over all the Dreſſings before you tie the former: This Compreſs ſerves to ſtay the Ribbons. Some Practitioners reject this.

13. A ſmall Quilt which is ſew'd on a Soal made of Paſtboard, to ſupport the Patient's Foot, and keep it ſtreight. Tho' this Situation of the Foot is fatiguing and not natural; yet it is neceſſary, becauſe it keeps the great Tendon extended, which otherwiſe would be ſhorten'd, and the Patient after his Recovery, could not go without ſome Support.

14. A Soal made of Paſtboard, which ought to be almoſt of the Figure and Bigneſs of the Foot: This is that which is to be cover'd with the Quilt juſt now mention'd. You muſt faſten three Ribbons to it, one at the end, which is to be pinn'd on the middle of the Leg, to the Longitudinal Compreſs, and one on each Side of it, which muſt croſs, and have their ends pinned to the Middle of the Junks, the one on the one Side, and the other on the other. This croſſing ſtays the Soal, that it cannot incline to one Side or the other.

15. A Roll or Ball as ſoft as can be made, to ſupport the Patient's Heel: This Roll is perforated, that ſo the Heel bearing on the Hole, may not be hurt. Some Practitioners rather chuſe falſe Junks after this Manner.

16. Falſe Junks to ſupport the great Tendon, that the Heel may not be hurt, as it is in the former Way: Take a pretty large and long Linnen Cloth; roll it at the two Ends, as you ſee in the Figure, and ſupport the Tendon on this Cloth, between the two Heads.

17. A Roller made of ſoft Cloth, on which the Heel reſts, when the Patient is weary of the falſe Junks: Theſe Dreſſings may be changed alternately, according as you find he complains.

18. A Pillow laid under the Ham to fill up the Cavity, for fear leſt the Leg receive an ill Direction.

19. A

19. A Pillow to be laid under the Leg.

24. A Cradle of Wood to keep off the Cloaths. Nevertheleſs you muſt take Care to lay ſomething very light and warm over the Leg in Winter, for fear of the Cold.

The Dreſſing for a ſimple Fracture of the Leg. See *Tab.* 44.

1. A ſimple Compreſs large enough to embrace almoſt the whole Leg, on which it muſt be apply'd ſmooth and equally, laying one End over the other: This is to be dipt in Oxycrate, or Wine heated, or ſpread with *Ceratum Refrigerans*, if here be any Inflammation.

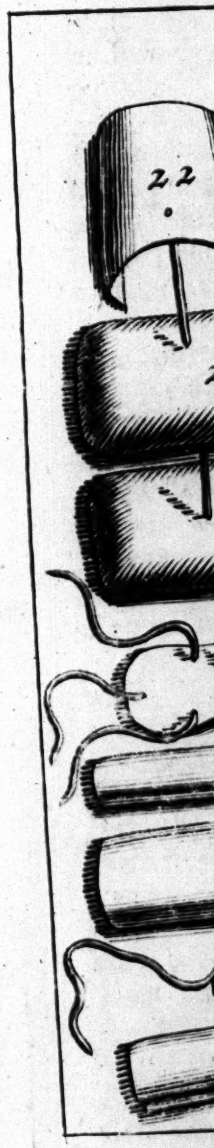
2. A Roller with one Head, two Ells long, and two Inches broad: Make three Rounds pretty ſtrait on the Fracture. Bring up your Roller with ſmall Edgings, ſo as to cover the whole Leg, and make it ſteddy with Rounds above the Knee, without covering that.

3. A Roller of three Ells long, and two Inches broad, rolled up at one end, with which you muſt make two Rounds about the Fracture, and then deſcend the whole Length of the Leg, which you muſt cover with ſmall Edgings: When you are come to the Foot, paſs under it, and make a ſort of a Stirrup, then re-aſcend over the Inſtep, and make an *X*; aſcend to the upper Part of the Leg with Edgings, and pin the Roller where it ends.

4. Two graduated Compreſſes, or that leſſen by Degrees: Theſe are apply'd to the Small of the Leg, obſerving to lay the thickeſt under the Ancles, which muſt not be cover'd.

5. Four Longitudinal Compreſſes folded in four Leaves, which are laid around the Fracture at equal Diſtances: Theſe muſt be ſix or ſeven Inches long, and an Inch and a half broad. If the graduated Compreſſes, which you have laid about the Leg, are not ſufficient to fill the Cavities, you may double each of your Compreſſes, to make the Small level with the Calf.

6. Four Splints ſhaped round at the End, of the ſame Length and Breadth with the Compreſſes, on which



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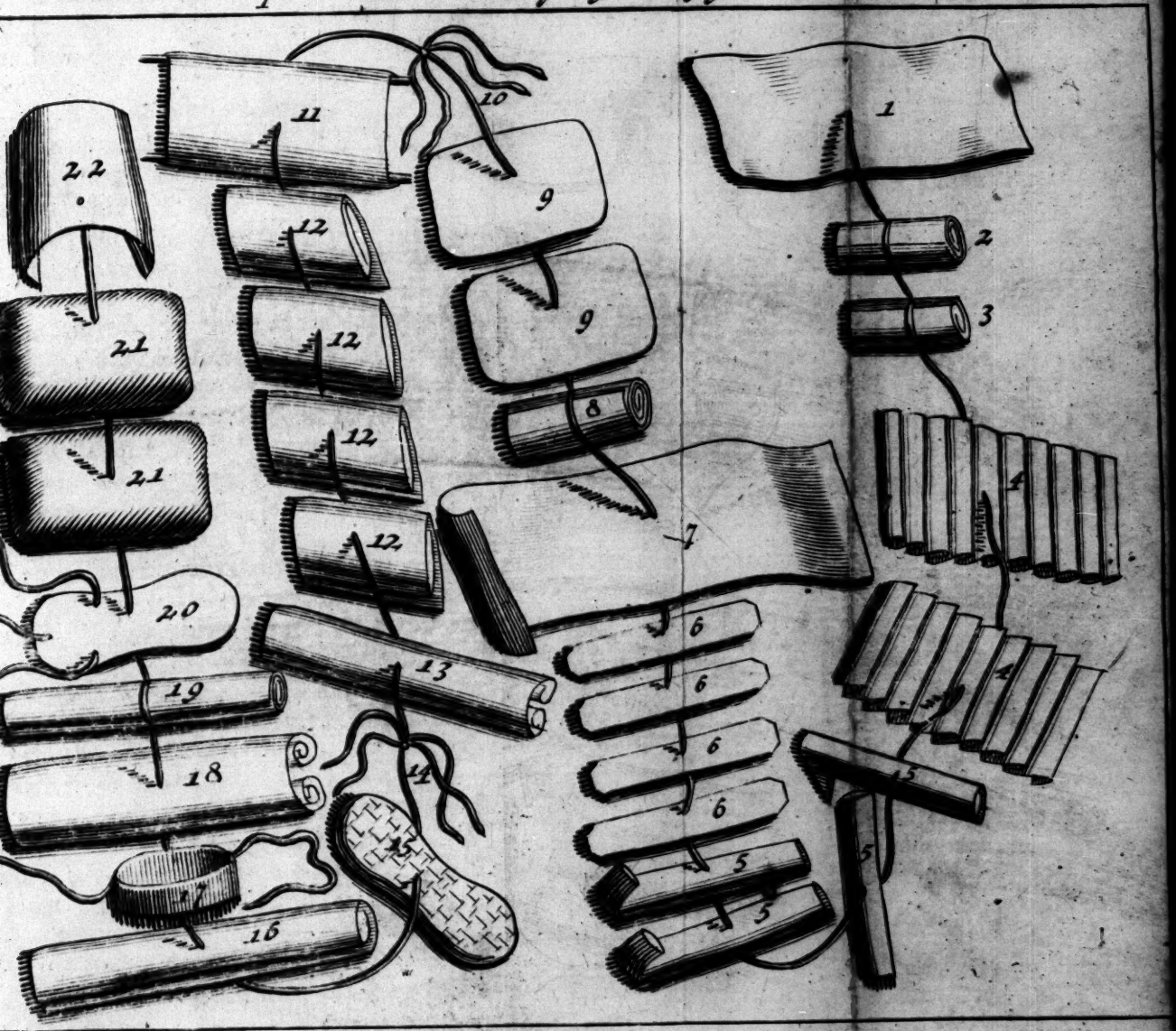
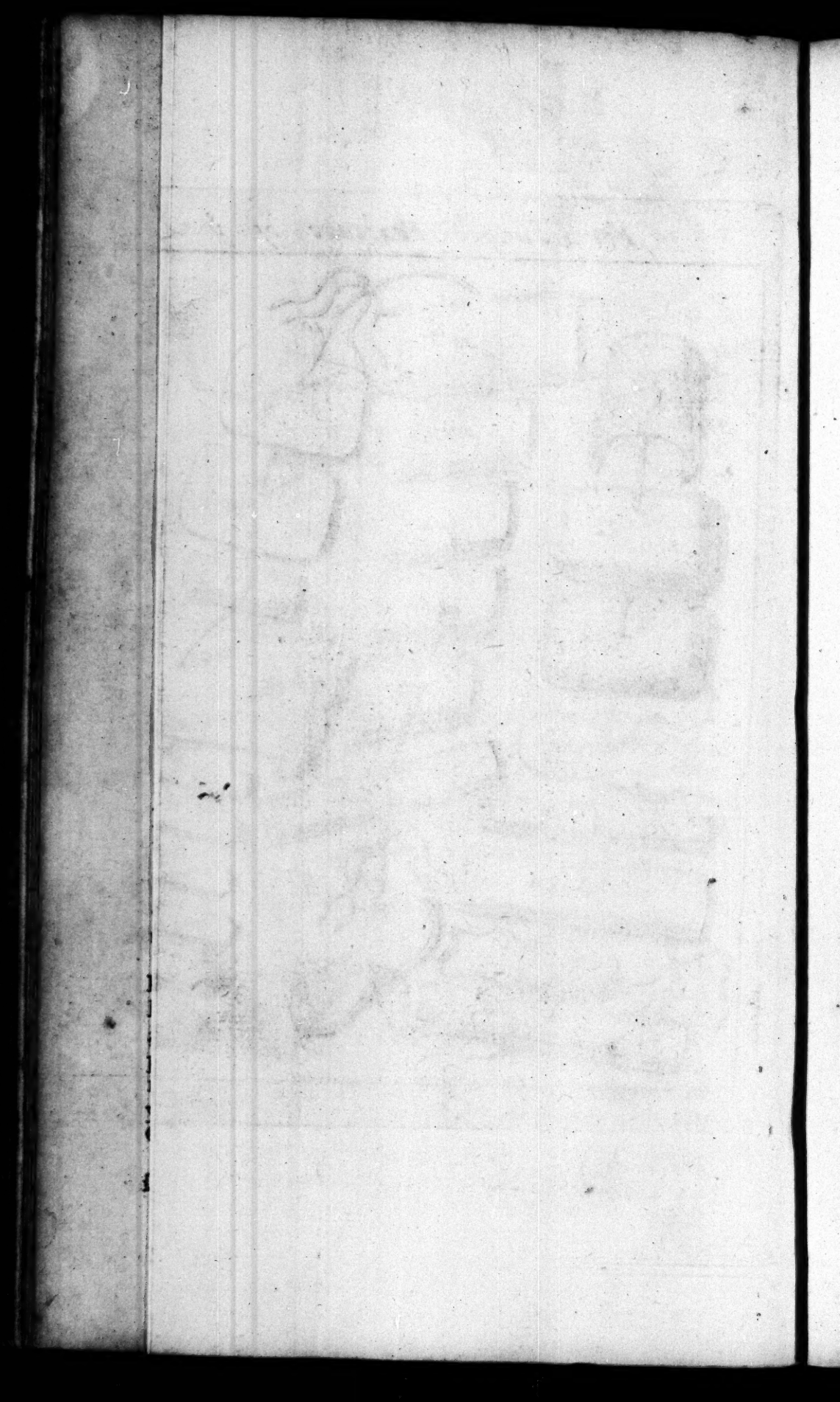




which they are apply'd, to keep them ſteddy on the Fracture: Theſe muſt be very thin, and made of a light pliant Wood, as Deal is, which is very proper for this Purpoſe.

7. A ſingle Compreſs of Linnen, which muſt be large enough to wrap up all the Dreſſings: This muſt be firſt dipt in Wine heated, that ſo it may ſit more equally.

8. A Roller three Ells long, and two Inches broad: In applying this, begin with a Round about the Fracture; then riſe and deſcend with Edgings, and faſten it where it ends.

9. Two large Paſtboards almoſt as long as the Leg, and large enough to embrace it without touching it: Place one on one Side, and the other on the other: You muſt ſhape theſe round at the End, and dip them in Oxycrate to ſoften them; by this Means, they will apply themſelves handſomly and uniformly over the Dreſſings, aud become very hard.

10. Three Ribbons, or Tapes, to faſten the Paſtboards which embrace the Leg; begin with tying that in the Middle: Make for every one a Knot, and a ſingle Bow on the Out-ſide of the Leg, and lay the Leg in Junks, after the following Manner.

11. The Junks to lay the Patient's Leg in: Theſe muſt be ſomething longer than the Leg, and go near three Inches above the Knee, but muſt not extend the whole Length of the Thigh. We have ſhewn before in the Dreſſing of the complicate Fracture of the Thigh how the Junks are made, and why they muſt not run farther than this.

12. Four thick ſquare Compreſſes to be laid between the Junks and the Leg, to fill up the Vacuities, *viz.* one on each Side the Ancles, between the Junk and the Leg, and one on each Side between the Knee, to fill up the Cavities.

13. Some late Practitioners, inſtead of theſe ſmall Compreſſes or Cuſhions, chuſe rather to put the Leg in falſe Junks: This is a Cloth as long as the Leg, which is ſpread over the Junks, and then is rolled at both Ends, not in round Rolls, but flat ones, and theſe are apply'd the whole length of the Leg on the Side, and the true Junks laid over them. Theſe falſe Junks keep

the

the true one ſteddy the whole length of the Leg, and the Compreſſes which ſerve to fill the Cavities may be laid aſide.

14. Four Ribbons or Tapes to tie the Junks: Lay three along the Leg at equal Diſtances, begin to tie that in the Middle; the fourth is placed above the Knee; make a Knot with each Ribbon on a Bow over it, on the Out-ſide of the Junks.

15. A ſmall Quilt of ſome proper Stuff, which is ſewed over a Soal of Paſtboard or Wood, to keep the Bottom of the Foot ſtreight: Tho' this Poſture of the Foot be forced, and not natural, yet it is neceſſary, becauſe, if the Foot were too long extended, the great Tendon would contract, and the Patient, after his Recovery, would be forced to uſe ſomething to underprop the Heel.

16. A long Compreſs in four Doubles, laid all along over the *Tibia*, between the Junks: This Compreſs ſtays the Ribbons with which the Junks are ty'd, and makes the Dreſſing more ſteddy.

17. A ſmall Ball or Roll to reſt the Patient's Foot on, to keep it ſtreight: If you make uſe of this, it ought to have an Elongation which may go up the Leg, on the Side of the great Tendon. Late Practitioners reject this, becauſe it tires the Heel too much, and, inſtead of it, they make uſe of falſe Junks to ſupport the great Tendon.

18. Falſe Junks without any Straw or Stick in them, made with a long Piece of Cloth four Inches broad, which latter Practitioners uſe to ſupport the great Tendon with, one Ancle reſting on one Roll, and the other on the other: When the Patient is tired with having the Tendon between the two Rolls, take off the Junks, and place the Heel on a Roll of Cloth.

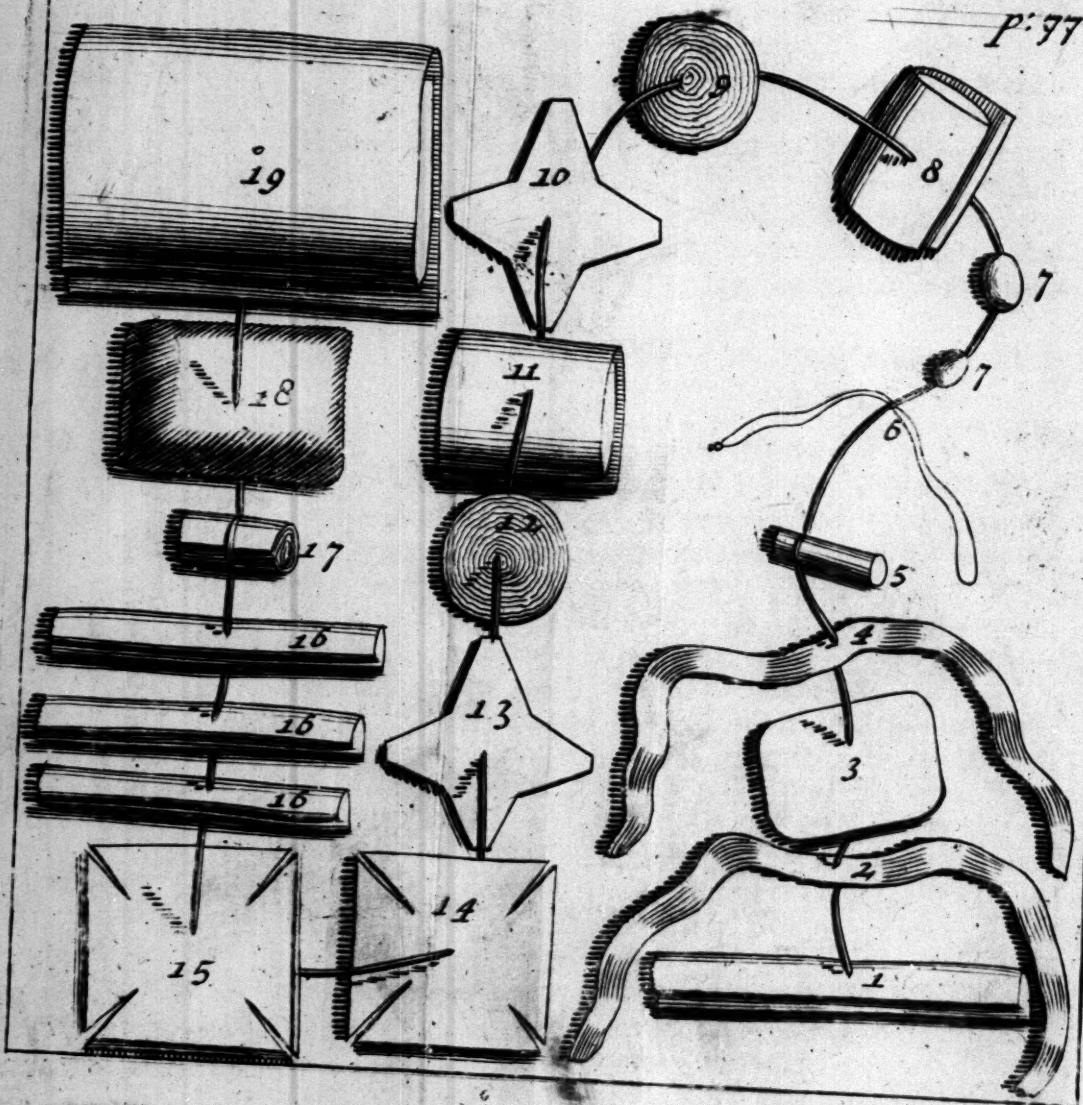
19. A Roll of ſoft Linnen Cloth, ſix Inches broad, rolled, on which late Practitioners reſt the Heel, when the great Tendon is tired with lying between the falſe Junks.

20. A Soal of Paſtboard or Wood, cover'd with a ſmall Quilt, to keep the Patient's Foot ſtrait. There muſt be three Ribbons faſten'd to this Soal, *viz.* one at the Top, whoſe other End muſt be pinned to the Longitudinal Compreſs on the Leg, and two others,

one

For an Amputation of y^e Legg Dress y^e 1^st. Tab. 45

P: 77



one on each Side of the Soal, which muſt be croſſed on the Leg, and faſten'd to the Junks, one on one Side, and the other on the other. Theſe three Ribbons ſerve to keep the Soal ſteddy.

21. Two Pillows to be put under the Leg; one of theſe is to be laid under the Ham. This muſt be thicker under the Cavity of the Ham, than along the Leg, to fill up the Vacuity, that the Leg may not receive an ill Direction: Put the other Pillow under the remaining Part of the Leg towards the Heel.

22. A Cradle of Wood to keep off the Cloaths, and hinder them from hurting the Leg: In the Wintertime you muſt lay ſome warm Linnen Cloth over the Part, to defend it from the Injuries of the Weather, when the Cloaths are kept off from it.

The firſt Dreſſing in an Amputation of the Leg.

See *Fig.* 45.

1. A pretty thick Compreſs laid under the Ham, to make the Ligatures on, for cutting off the Leg: It ought to be long enough, that one End may go under the Leg lower than the Garter, and the other a pretty way up under the Thigh.

2. A Ligature of Cloth of an Inch and a half broad, and an Ell long, with which the Thigh is ty'd above the Knee: Make two Turns with this Ligature, and ſtraiten it with a ſmall Stick call'd the *Turniket*.

3. A Paſtboard laid under the Ligature, which is made above the Knee, for fear of pinching the Skin, when the Ligature is ſtraiten'd.

4. A Ligature of Cloth of two Inches broad, and about an Ell in length, with which two Turns are made pretty ſtrait about the Garter or the Place where the Leg is to be cut off. There is no Stick requir'd to ſtraiten it.

5. A Turniket to ſtraiten the Compreſs laid over the Knee.

The five Pieces mention'd, do not truly belong to the Dreſſing, but the Operation, however, being Compreſſes and Ligatures, we thought fit to take Notice of them.

6. A

6. A good doubled Thread, well waxed, to make a Ligature on the Arteries: To diſcover theſe, relax a little the Turniket, and let a little Blood iſſue out, and then ſtraiten them again. Take hold of the End of the Artery with your *Forceps*, or an Inſtrument made for the Purpoſe, called the *Valet au Paton*, which is a ſort of *Forceps* which retains its hold of the Part, by means of a Ring, which is made to ſlip to the End of its Branches. This waxed Thread is put thro' the Eye of a ſmall Needle, which is paſt thro' the Fleſh below the Artery, and is paſſed a ſecond time above it. When this is done, take the two Ends of the Thread, and tie them over the Artery: Make another Turn over the Veſſel, and tie a double Knot, and let the End of the Thread hang down to find the Artery, if there be occaſion for it. If there are more Arteries than one which ſpue out Blood, make as many Ligatures. Some Practitioners lay Buttons of Vitriol on the End of the Arteries to ſtop the Flux of Blood, which are thus made:

7. Buttons of Tow as big as the End of the Thumb, ſtrew'd with Vitriol groſly pulveriz'd, and theſe are apply'd one on each Artery.

8. A ſmall ſquare Compreſs folded in four Leaves, to be laid on each Button of Vitriol, to keep it on the Veſſel.

9. A large Pledgit of Tow, armed with Reſtringent Powders, as Bole, *Terra Sigillata*, Colophony, *viz.* to cover the Wound, and ſtop the Blood: This muſt be pretty thick, and a little hollowed in the Middle, for the better retaining the Vitriol. Lay this in your Hand, and ſo apply it on the Stump.

10. A Hog's Bladder cut four ways, leaving the Middle undivided: Arm theſe with the ſame Reſtringents as you did the Tow, and apply it over the Pledgit; then raiſe the four ends above the Knee, to wrap the lower end of the Thigh handſomly.

11. A Compreſs in four Leaves to be laid on the end of the Stump, that is on the Bladder, for the better compreſſing it.

12. Large Pledgits of Tow arm'd with Bole Colophony, *Terra Sigillata*, and other Aſtringents, to be apply'd on the Amputation as that before.

13. A

13. A dry'd Hog's Bladder cut four ways, as the former, the Middle being undivided: Bring the ends above the Knee, and wrap the lower end of the Thigh handſomly up.

14. A large Emplaſter of Bole, cut in the Form of a Croſs of *Malta*, to be laid over the Bladder: It muſt be large enough to bring above the Knee. To apply this methodically, take the lower Tail with both Hands between the Thumb and Fore-Finger, and apply it on the Stump, and let the Servant who holds the Part keep it on. Raiſe the upper Tail over the Stump, and encompaſs the lower end of the Thigh with it, ſo that the undivided Part of the Emplaſter be juſt on the Middle of the Part which is cut off; then raiſe the other Tails one after another, and wrap them round the Thigh.

15. A large Compreſs of Linnen doubled, cut in Form of a Croſs of *Malta*, which is apply'd in the ſame manner as the Emplaſter. This Compreſs muſt be large enough to cover the whole Dreſſings.

16. Three Compreſſes of about a Foot long, and of three Fingers breadth, folded length-ways into three Leaves: Lay two of theſe Compreſſes in ſuch Manner, that they may croſs each other on the Center or Middle of the Stump. The firſt is apply'd according to its length on the Stump, and is brought over with its other end to above the Knee. The ſecond paſſes on the two Sides of the Leg, which is cut off, and goes above the Knee. The third is apply'd below the Part cut off, to encompaſs the two former in ſuch manner, nevertheleſs, that the two Ends may croſs each other, and riſe up obliquely; and this Dreſſing is kept on with the following Roller.

17. A Roller four Ells long, and two or three Inches broad, with one Head, to make the Bandage call'd the *Capeline*: Make three Rounds about the Part which is cut off on the Edge. After this bring up the Roller the whole length of the Stump, with ſmall Edgings, quite above the Knee, and there make ſeveral Rounds about the Bottom of the Thigh. Bring down the Roller all along on the Side of the Stump, and paſs it over the Middle of the Part which is cut off; re-aſcend all along the Stump to quite about the Knee

when

when you are arrived there, make one Turn round the Bottom of the Thigh, to ſtay the two Turns of your Roller, which you brought up and down. Bring down the Roller again, and paſs it over the Middle of the Wound, and then re-aſcend above the Knee, and make a Round to keep the Turns of the Roller ſteddy; next deſcend, and re-aſcend the length of the Stump, till it be quite cover'd. When you are at the Bottom of the Stump, make a Round, and riſe the whole length with Edgings, to embrace the deſcending and aſcending Turns, and end with Rounds above the Knee, which muſt be repoſed on a Pillow on one Side.

18. A Pillow to reſt the Leg, cut off on its Side; one of the Corners of the Pillow muſt be beaten up with a Blow of the Fiſt, to bring it farther under the Thigh.

19. The Pillow muſt be cover'd with a Cloth four times doubled, to keep the Blood from fouling it. The Dreſſing muſt be taken off two Days after the Operation.

Here is a great deal to do to make this Dreſſing; but ſince it is that which Mr. *Petit* uſes in the *Hotel-Dieu*, I thought fit to give it to the Reader, without omitting any Part of it.

The Reaſon why he uſes it is, becauſe he only contents himſelf with the Vitriol-Buttons, without making a Ligature on the Veſſels; and this Dreſſing muſt be kept on the Stump by the Hand of ſome one or other all Night. If the Arteries are ty'd, you may abate ſuch Part of this Dreſſing as your Senſe ſhall direct you.

When you take off the firſt Dreſſing, you muſt apply a ſecond, if the Blood be not ſtopped, but if it be, then that which follows.

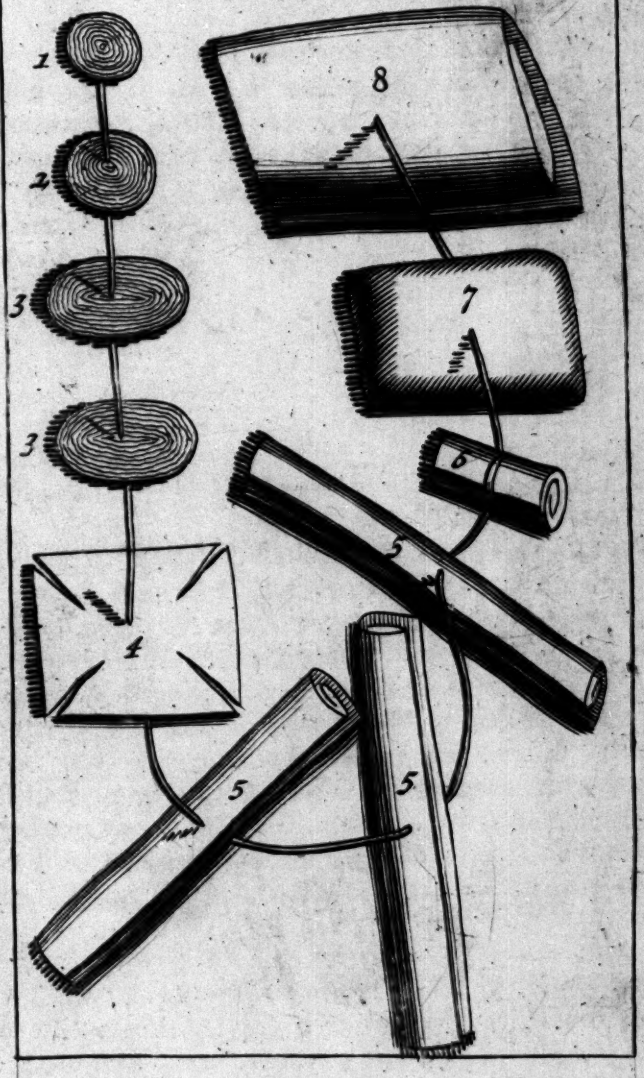
The ſecond Dreſſing in an Amputation of the Leg. See *Fig.* 46.

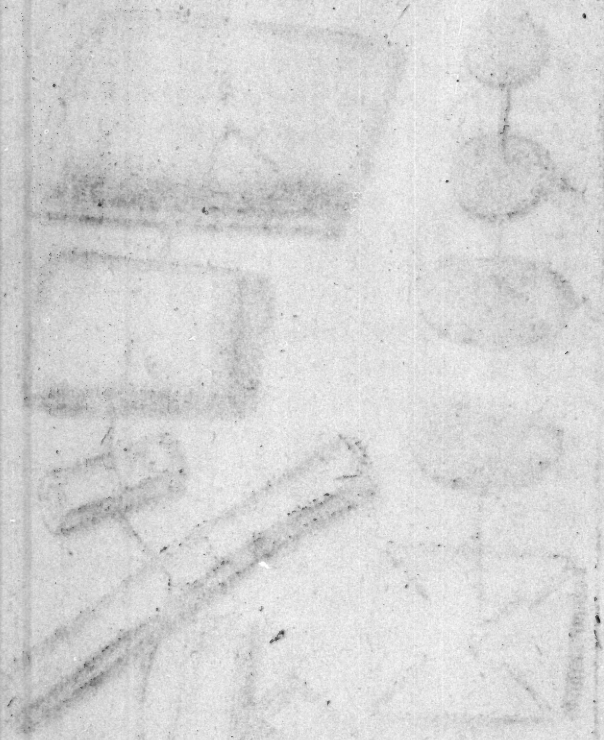
1. Place on the Marrow of the leſſer Focil a dry Pledgit, that the Medicines may not touch it..

2. Another dry Pledgit of Lint a little larger than the former, to be apply'd on the Marrow of the greater Focil

For an Amputation of ye Legg ye

Second Dreſsing Tab. 46. p: 80.





Focil or *Tibia:* Theſe Pledgits muſt cover the end of the Bone, that the Medicines laid on the Stump may not corrupt it, and cauſe an Exfoliation, which muſt be hinder'd, if poſſible, becauſe it very much retards the forming of the *Cicatrix*, but it is very ſeldom that it can be prevented.

3. Oval Pledgits arm'd with a Digeſtive made of Turpentine, Yolks of Eggs, and Oil of Roſes, which are laid on the end of the Leg cut off, to procure Suppuration: Theſe muſt be handſomly adjuſted and laid round, and a little advanced on the Leg, that ſo they may the better cover the Edges of the Wound.

When the Wound is well digeſted, and there is no Inflammation, and the *Pus* is white, not diſcolour'd or ſtinking, let the Digeſtive be taken off, and ſpread the Pledgits with ſome good Detergent.

4. A large *Minium* Emplaſter cut in the Form of a Croſs of *Malta*, to be apply'd over the Pledgits: To do this neatly, take one of the Bars of the Croſs, with the Thumb and Fore-Finger of each Hand, apply this pretty far under the Ham, and bring the two Ends round the Leg, which is cut off, and cauſe them to be held; then raiſe the two upper Ends over the Leg, and encompaſs it with them: Laſtly, raiſe the two Bars which are on the Sides, and wrap them round the Leg, ſo that the undivided Part of the Croſs may be apply'd on the Middle of the Wound. This Emplaſter muſt not paſs over the Knee, as in the firſt Dreſſing; it muſt be leſſen'd as well as the Pledgits, in proportion as the Wound leſſens in Cicatrizing: Let theſe Pledgits be laid on dry, or dipt in ſome deſiccative Liquor, when the Wound is in a healing Condition.

5. Three Compreſſes about a Foot long, and of three Fingers breadth, in four Doubles: Take one of theſe, put the End under the Ham, and bring it about the Thigh, raiſe the other End and bring it over the Wound on the Knee, and about three Inches along the Thigh, and let a Servant who holds the Leg

keep it on. Take another Longitudinal Compreſs, and apply the Middle on the Middle of the Wound, making a Croſs on the former; raiſe it all along on each Side of the Leg which is cut off, and bring it forward about three Inches on each Side of the Thigh. Take the third Longitudinal Compreſs, and apply the Middle of it on the Stump, bringing it obliquely to croſs above.

6. A Roller with one Head, about three Inches broad, and an Ell and a half long, to make the Bandage call'd the *Capeline*, which is deſcribed before in the Amputation of the Leg.

7. A great Pillow to repoſe the Patient's Leg, and ſupport it when it is laid on it.

8. A Cloth folded in four Leaves, to keep the *Pus* from ſtaining the Pillow.

The manner of making the Bed for thoſe who have their Legs or Thighs broken.

To make this Bed, carry the Patient and lay him on a Couch: Let a very ſtrong Man take him in his Arms, and let the Surgeon put his Arms between his Legs, and let them both carry him dexterouſly and gently, and lay him along on his Back, having firſt laid on a Quilt or Blanket, and Pillow under his Head and Legs, and then cover him with a Cloth or a good Coverlet, if it be Winter-time, taking Care not to lay any Weight that may bear on the Part reduced, and leave him thus till his Bed is fitted.

To prepare this, let all the Blankets and Cloaths be taken off, ſo as to leave the Matting bare; paſs your Hand thro' the wide Space between the Matting, and puſh it on the Right and Left, till it be cloſe and even, becauſe the leaſt Unequalities are capable of incommoding the Patient, by reaſon of his long continuing in the ſame Poſture: In fitting the Matting, let the Feet be a little higher than the Head, becauſe if theſe were low, it would be troubleſome to the

the Patient. When the Matting is ſmooth and equal, lay on a Feather-Bed, which is well beaten, and equal throughout, and a Quilt or Blanket on this, and a Boulſter at the Head, and on this two or three Pillows ſtuft with Feathers one over another, that ſo the Patient lying in his Bed, may ſit half erect, and have his Head high enough: Lay a Sheet over the former, and turn it round the Bed, to engage it between them and the Bedſtead, that all may be firm, and there be no Occaſion to make the Patient's Bed often: Place one or two Pillows at the Foot of the Bed. The Bed being thus prepared, gently uncover the Patient, and let a ſtout Man take him in his Arms, and the Surgeon put his Hands between his Legs, and ſo carry him with an equal Motion to his Bed: Let the Leg affected be laid on the Pillow, and the ſound Leg on the Side of another Pillow, for they muſt not bear both on the ſame. Lay a Cradle over the fractured Leg, and let the two Ends paſs a little under it. See the Figure in the Dreſſing for a Fracture of the Leg.

All Things being in this Condition, take a ſmall douled Cloth, and lay it over the Patient's Belly and Legs, becauſe the Cradle keeping off the Cloaths, the Patient would take Cold in Winter, and as for the Summer it may be omitted then.

After this take a great Sheet and ſpread it over the Patient, which muſt go over the Cradle, and fall down to the Foot of the Bed, where you muſt engage it between the Quilt and the Bedſtead, that the Air may not enter the Bed underneath; beſides this, it likewiſe keeps the Cradle ſteddy: Take a good Blanket, and ſpread it over the Sheet, then go to the Bed's Head, and turn back the Sheet and Blanket quite to the Bed's Feet; if it be long enough, turn this round the Bed to engage it between the Blankets and the Bedſtead, that ſo the Bed may be tight, that it may not looſen it ſelf, and require to be ſo often made, and the Air get in underneath.

Since it is neceſſary ſometimes to put in Order the Patient's Pillows, when they get out of their Place, it is convenient to faſten a Cord to the Bed's-head, if it be Wood, or the Cieling, if not, and at the End of this to have a Stick, which the Patient may take in his Hand and raiſe himſelf, and make himſelf eaſy whilſt the Pillows are fitted.

Draw the Curtains round, if it be Winter, and leave the Patient to take his Reſt.

The Manner of making a Bed for a Woman who Lies-In.

It is beſt for the Woman to be deliver'd in her Bed, becauſe if this be done elſewhere, ſhe cannot, without ſome Difficulty be carry'd to it, when ſhe is fatigued with her Labour.

Let her Bed be made with a Quilt only, without a Feather-Bed, for this is more convenient for her Delivery: And let ſeveral Cloths be laid over the Quilt to receive the Waters, and hinder them from ſpoiling the Bedding, and incommoding the Woman. The Bed muſt be ſo made, that ſhe, being laid on her Back, may ſit half erect. This Poſture is moſt convenient for breathing, and ſhe will have more Strength to bear down and help her Throws; when ſhe is laid on her Back, with her Thighs ſpread, and her Knees rais'd, lay a Pillow under her Buttocks, that the Rump-bone may more eaſily give way, and let her have her Feet ſupported on ſome thing that is ſteddy, for her better bearing down her Throws: Obſerve that the Bed muſt be ſo made, that the Woman in Labour may have her Feet near the Feet of the Bed, and the Midwife may aſſiſt her.

The Dreſſings which the Midwives of Paris *uſe after Deliveries.* See *Tab.* 47.

1. When the Birth is over, and the *Placenta* is come away, lay before the Womb a ſoft Linnen Cloth folded

ded in ſix Leaves, for fear leſt the cold Air enter whilſt you are preparing the reſt.

2. After this lay a ſmall Pillow under each Ham to ſupport them, and placing her half erect, let her put down her Thighs, and keep her Legs cloſe together; for ſuch a Situation is proper to help her breathing, and give way for her cleanſing.

3. An Anodine Cataplaſm apply'd outwardly to the Entry of the Part, to appeaſe the Pain, and prevent Inflammation: Before this be apply'd, the Cloſure muſt be removed.

The Cataplaſm is thus made; Take two Ounces of Oil of Sweet Almonds, and the Whites and Yolks of two New-laid Eggs; put theſe into a little Skillet over warm Embers, till the Cataplaſm be of a good Conſiſtence: Spread this on a Linnen-Cloth, and apply it warm on the Part. Renew this every ſix Hours, if there be Occaſion, that is, if the Pains continue, and you apprehend an Inflammation.

4. A ſmall Emplaſter of *Galbanum*, on which ſome Midwives put a little Civet, and apply it to the Navil: They pretend this comforts the Womb.

5. Some Practiſers lay on each Side the Womb a ſmall Roll made with a Napkin: Theſe they ſay keep the Womb ſteddy; but Mr. *Mauriceau* condemns this.

6. A Cloth folded obliquely in four Leaves, to be apply'd on the lower Belly, to encompaſs it a little for the Evacuation of the Waters and Cleanſings.

7. A great ſquare Cloth, in four Doubles, to cover the Belly, and keep it warm in cold Weather.

8. A Swathe of a quarter of an Ell in Breadth, to encompaſs the Belly, and keep the Compreſſes on: This is a large Napkin folded in three Leaves.

Tho' Dreſſings are commonly uſed after the Operation only, yet the remaining Part of theſe are to be put on before the Woman's Delivery, becauſe afterwards being much tired and very deſirous of Reſt, ſhe would not ſuffer them.

9. A large Linnen Cloth which encompaſſes the whole Body; the upper Part of this is apply'd round the Breaſt under the Arm-pits, and the reſt falls down like a Smock: For the orderly applying this, roll it at both Ends; take one Roll in each Hand, and apply the Middle of the Cloth on the Patient's Back; then bring it forward, and croſs the Ends one over another: This is very uſeful, becauſe it is ſo eaſily removed after the Labour is over, it being fouled with the Cleanſings. To take it off, you need only draw it at the lower End, without ſtirring the Patient, which is a Convenience which a Smock has not.

10. A large ſingle Cloth to go round the Belly of a Woman newly deliver'd: This muſt go to the Bottom, inſtead of that which is taken away, and ſerves inſtead of a Smock, till the Woman be in a Condition to put on one.

11. A great Cloth with Waves to put round the Woman's Breaſt: The Portion ariſes towards the Neck behind, and the two Waves *B B* are put under the Arm-pits, and this half Smock is faſten'd behind by croſſing it.

12. A ſmall ſhort Smock open before, put over the Smock.

13. A ſmall Corcelet or Neck-piece: begin to apply this behind, and croſs it on the Boſom before; it ſerves only to cover the Breaſt: The elongated Portion marked *A* is in the Middle of the upper Part of the Back; the Laps *B B* paſs over the Shoulders, and are brought before and faſten'd on the Boſom.

Take

Take Notice that this Neck-piece and half Smock, *&c.* are only put on in cold Weather, for in warm the Smock is enough; however, you muſt have a Care that the Patient do not take the leaſt Cold, eſpecially in her Breaſt, for fear leaſt the Milk coagulate, and form Abſceſſes or Schirrous Swellings.

As the Midwives of *Paris* are, or ought to be, the ableſt in *Europe*, by reaſon of the frequent Occaſions they have of making Trials, I thought I might oblige the Country-Practiſers by giving them their Dreſſings, which I have cauſed to be engraven from thoſe of one of the moſt famous Women in that City.

The Dreſſing for a New-born Child.

As ſoon as the Infant is born, let the Navil be ty'd with a good ſtrong waxed Thread four or five times double, of a Quarter of an Ell long, which muſt be ty'd at each Extremity, that the Ends may not be troubleſome.

When this is prepared, tie the Navil-String about an Inch from the Belly, and make a double Knot on the firſt Round; then bring the Thread round a ſecond time, and back again, and then tie it: Laſtly, cut the Navil-String an Inch below the Ligature, towards the After-burthen. The Ligature muſt not be either too ſtrait or too ſlack, for in the firſt Caſe there would be a Danger of an Inflammation, and in the latter the Blood would get out: After the laſt Knot is made, you muſt not cut the Thread, for fear of being obliged to ſtraiten it a ſecond time, if the Blood ſhould happen to get thro' the firſt Ligature.

When this is done, wrap round the Navil-String with a ſingle fine Linnen Cloth, which may be dipt in Oil of Roſes, and make two or three Turns round it with this, to keep off the Cold.

In the next Place, take a double Cloth and lay it on the Child's Belly, between the Navil and the Breaſt,

and on this lay the remaining Part of the Navil-String wrapt up as before.

When every Thing is thus diſpoſed, take a Swathe three Inches broad, and long enough to embrace the Child's Belly; bring it over the remaining Navil-ſtring which was laid on the Belly to keep it ſteddy: The Part muſt be left in this Condition, till the Veſſels are entirely re-united, which is done in ſix or ſeven Days, or at fartheſt in nine: After which that Part of the String which is beyond the Ligature, receiving no Nouriſhment, falls off.

In the laſt Place take a Bit of fine Linnen, or a ſoft Spunge, dipping it in warm *Aqua Vitæ*, and with this cleanſe the Child's Body. I think it not improper to allay this with a Moiety of Water, for fear of intoxicating the Child.

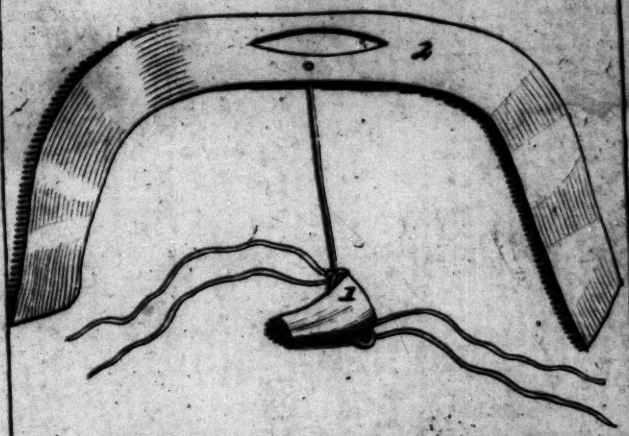
Wipe the Child's Eyes likewiſe with a fine Linnen Rag very dry, for if it were dipt in any Liquor, it would cauſe a ſmarting.

If the Child does not void its *Meconium*, or blackiſh Matter, with which the Guts are fill'd, make a Suppoſitory with a bit of Soap, as long and thick as a little Finger, and introduce it into the Fundament the firſt Day, to excite him to evacuate; or, inſtead of this, you may put a ſugar'd Almond ſmeared with Honey, boil'd to a Conſiſtence.

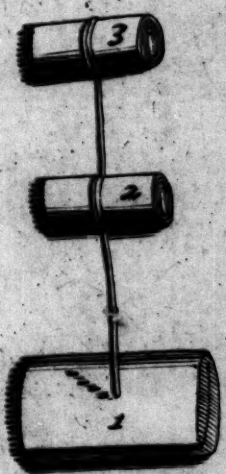
Cover the Child's Head with a little Biggin made of Linnen, and over this, on the Mold, lay a Compreſs of Linnen Rags folded in three or four Doubles, which muſt be three Inches broad, and pinned to the Biggin.

Put over this a ſmall Woollen Cap, and under the Ears all around a fine Rag to abſorb the Fleſh which is engender'd there: Lay alſo a Rag on the Child's Breaſt, and one on each Groin, between the Thigh and the genital Parts, to prevent the Excoriations to which

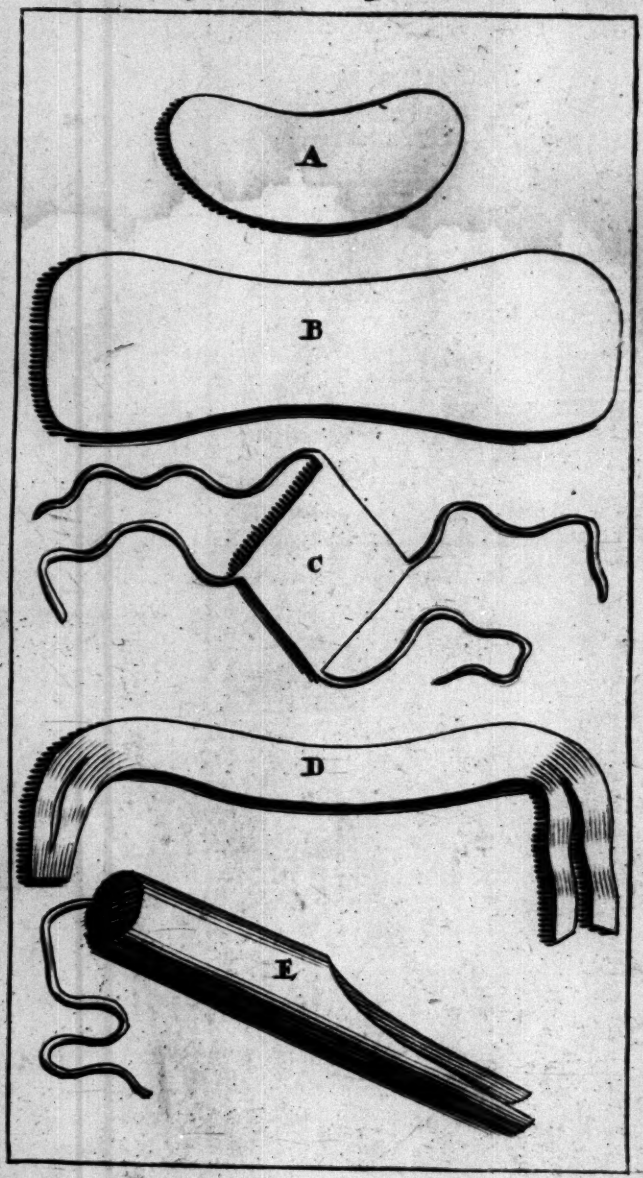
For Bronchotomy Tab: 24. p: 12.



For Bleeding in ye Jugulars Tab: 25.



Tab. 3 last p: 89.



which Children are ſubject. For the ſame Reaſon, take care to put ſoft Rags under the Arm-pits.

When the Child is ſwathed and wrapt in Cloths and Blankets, lay him down, and, that his Head may not roll to and fro, put ſomething over it, and pin that to the Blanket.

Of Irregular Dreſſings.

The Irregular Dreſſings are ſo numerous, that they deſerve a particular and ſeparate Treatiſe to deſcribe them.

Nevertheleſs we ſhall reduce them all to two general Rules, that is, to refer them, as much as may be, to the regular Dreſſings before deſcribed, and to accommodate them to the Figure of the Part; and this requires Addreſs and Senſe in the Surgeon. Let us try our Ability.

A Dreſſing for an Ulcer behind the Ear. See the laſt Table.

Lay a ſmall Pledgit on the Ulcer, and let this be armed with a Digeſtive, if you would ſuppurate, or a Deſiccative, if you would dry it. Lay the Emplaſter *A*, which is in the Form of a Creſcent, over the Pledgit. You ſee it muſt have this Shape to accommodate it ſelf to the Part; for not only the Dreſſing is more neat, but it covers the Pledgit better; it would be very inconvenient to keep this ſmall Dreſſing on with a Bandage, and therefore lay a ſticking Emplaſter on it, which will cleave of it ſelf.

You muſt never multiply the Pieces of your Dreſſings without Cauſe, for they are troubleſome enough of themſelves.

A Dreſſing for the Stump of a Finger which is taken off.

Lay a Pledgit on the Wound, and arm it with ſuch a Liniment as you ſhall think fit: Lay on this an Emplaſter

ter of the ſame Shape as is marked *B.* in the laſt Plate: Apply the Middle of this on the Wound, and let one end fall on the out-ſide, and the other on the in-ſide of the Hand. You may ſee, that theſe two Pieces will not ſuffice as before for the Ear, becauſe that has no Motion, and the Hurt not very conſiderable; but the Hand being in Motion, and the Wound great and dangerous, you muſt lay a Compreſs as broad as the Space between the Fingers, and long enough to cover the Emplaſter which falls over, and within the Hand: You muſt keep this Compreſs too, ſteddy with another, which is two Inches broad, and long enough to go round the Hand, bringing it between the Thumb and Fore-Finger, and over the firſt Compreſs; then pin one end on the other, which not being ſufficient to keep on the Dreſſings, you muſt make uſe of a Fillet as broad as the Points of two Fingers, and about an Ell long, rolled up at one end: Make two Rounds about the Wriſt; bring down the Roller on the back of the Hand; paſs it over the Wound, and then within the Hand, and after round the Wriſt; continue till the Fillet is ſpent, and then faſten it round the Wriſt, and ſo you will have a ſmall and pretty neat Bandage, which will hold very well, and keep the Medicines on the Part. Here you ſee an Occaſion to make uſe of your good Senſe. The Emplaſter is made broader, where it is to go on the out-ſide and the in-ſide of the Hand, than where it covers the Wound, becauſe ſuch a Shape helps it to keep on the Part. The Compreſs is contrived to keep the Emplaſter on, and the Fillet is uſed, becauſe without ſuch a Bandage it would be difficult to retain the former between the Fingers.

The Dreſſing for a Wound or Ulcer on the Buttocks,
See *the laſt Plate.*

Lay your Pledgits on the Wound, and your Emplaſter over, and then a Compreſs: You ſee theſe Applications cannot be kept on by rolling the Part, and therefore make uſe of the Bandage marked *C* in the laſt Plate, that is, a large ſquare Piece of Linnen-Cloth with

with a Strap faſten'd to each Corner; this is call'd the Buttock-piece: Bring the two Straps round the Hips, and apply the middle of the Cloth on the ſuffering Part, and then bring the two other Straps round the Thigh. This Bandage is very convenient.

The Dreſſing for an Extraction of the Stone, when it is in the Yard.

This Operation conſiſts in making an Inciſion into the Yard, to bring the Stone out of the *Urethra*.

You know the cicatrizing does ſtreighten the Part, and therefore it may be feared that the *Urethra* may be ſo cloſed, that the Urine could not come away, and therefore you muſt paſs into the Duct a ſmall Leaden-Pipe to keep it open whilſt the *Cicatrix* is forming. You muſt lay on the Wound a little longiſh Pledgit armed with ſome Balſam, and over it a ſmall Emplaſter; keep all on with a little Fillet of one Finger's Breadth, with a Hole at one end, and ſlit length-ways for two Inches at the other, as you ſee *D* in the laſt Plate: Paſs the two Tails thro' the Hole at the oppoſite end of the Fillet. Put the Yard into this Fillet, then riſe and deſcend with ſmall Edgings, and when the Fillet is ſpent, faſten it at the End; if this be not ſufficient, put the Yard into the Bag or Caſe, marked *E*; ſee the laſt Plate. This Bag muſt have a Hole at the End for the Urine to paſs through, without taking it off, and muſt have two Tapes or ſmall Straps, to faſten it to the Girth which goes round the Waſte, for the keeping it up.

A Dreſſing for a Wound in the Head where the Bone is bare, the Tegument ſeparated from it, and there is a great Putrefaction.

Since there is Putrefaction and a large Suppuration, and the Bone is bare, you may perceive it is carious, and there is no room to hope that the Skin ſhould grow to it: Lay then your Pledgits between the Bone and the Skin, having firſt dipt them in ſome ſpirituous Liquor, to receive the natural Heat of the Part; let theſe be made large enough to cover the Lips of the Wound. There

can

can be no Suppuration here, but that the *Pus* muſt neceſſarily corrupt the Bone, and therefore it is not to be hoped that ſuch a Wound can be cured without Exfoliation, and therefore you muſt lay on the Bone a Pledgit dipt in ſome ſpirituous Liquor to advance it: But if you hope to avoid this, then uſe only a dry Pledgit. After this, lay a large Emplaſter over the whole Wound, which you muſt ſnip with the Sciſſors round, that it may accommodate it ſelf to the Figure of the Head. For it is a general Rule for all Emplaſters, that you muſt give them ſeveral Snips with the Sciſſors on their Edges, for the better adjuſting them to the Part when it is round, as the Knee, Shoulder, &c. In the laſt Place, lay a Compreſs of Rags doubled over all, and keep the Dreſſings on with a folded Handkerchief.

A Dreſſing for a large Ulcer where-ever it be, as on the Thigh, one Part of which is red, the other Fungous, and over-run with ſuperfluous Fleſh, another Cavernous, another Sanious, another Part Callous; which Accidents often happen to the ſame Wound.

Since there is one Part red, there is a Diſpoſition to cicatrize, and therefore you muſt lay on it a Pledgit of dry Lint; ſince another Part of the Ulcer is Fungous, you muſt touch it with a Cauſtick, and then lay a dry Pledgit on the Place, and at the next Dreſſing look on it, to ſee if the Fungoſities are gone, and then a Pledgit armed with deterging Medicines on it. Since there is another Part Cavernous, by the Help of a Probe, you muſt thruſt a Pledgit dipt in ſome Digeſtive into the Wound, if there be a need of procuring Suppuration; or a Detergent, if the Suppuration be good, and the Matter not ſtinking or virulent. In the Place where the Wound yields a *Sanies*, lay on it a Pledgit armed with a Digeſtive, and remove the Calloſities by a Cauſtick; over all lay a large Emplaſter, a Compreſs, and apply a convenient Bandage.

You ſee by this ſmall *Specimen*, that the irregular Dreſſings are infinite, ſince they differ according to the Circumſtances of the Diſeaſe, and the Part affected.

Conſult

Conſult therefore your own Reaſon, and frequent the Hoſpitals as much as you can, which are the beſt Schools for a Surgeon.

The Dreſſing for bleeding in the Foot.

The Dreſſing muſt not be forgot, and is made after a Manner not much different from that of the Arm. Let your Compreſs be ſomething thicker: The Bandage is made with a Roller two Ells long. Put one End of the Roller on the Knee, and lay the Patient's Heel on it; bring the Roller ſeveral times over the Compreſs, as is done on the Arm, and after paſs under the Foot the End of the Roller which is laid under the Heel, to make a Stirrup, that ſo the Roller may not fall to the Ground. Tie the two Ends, and make a Bow on the Knot, as in Bleeding in the Arm.

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